INCENTIVE FOR STARTUPS AND VENTURE CAPITAL

HEARING

BEFORE THE

SUBCOMMITTEE ON TAX, ACCESS TO EQUITY CAPITAL AND BUSINESS OPPORTUNITIES

OF THE

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INCENTIVE FOR STARTUPS AND VENTURE CAPITAL

WEDNESDAY, JUNE 22, 1983

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TAX, ACCESS TO
EQUITY CAPITAL AND BUSINESS OPPORTUNITIES,
COMMITTEE ON SMALL BUSINESS,
Washington, D.C.

The subcommittee met, pursuant to notice, at 9:35 a.m., in room 2359-A, Rayburn House Office Building, Hon. Henry J. Nowak (chairman of the subcommittee) presiding.

OPENING STATEMENT OF CHAIRMAN NOWAK

Mr. NOWAK. The subcommittee will come to order. We will have a brief opening statement and then go right into our testimony. We know that many people have traveled far to come to Washington. We appreciate your taking the time to create a record which I think is going to be valuable as we go through the next year in looking at an agenda to stimulate investment and keep the economy moving forward.

The Nation's economy is in the throes of a structural transformation, both in terms of its basic industries and in the way industries meet their financing needs. This will have a dramatic impact on our work force and what constitutes the U.S. industrial agenda for the remainder of this decade.

In this context, I support the notion of a comprehensive industrial strategy that would not only help revitalize our auto and steel industries, but would also foster entrepreneurship. Moreover, the agenda should include a focus on startups for venture capital.

Based on an industrial strategy of this type, we will not only be immeasurably increasing industrial productivity, but we will also be taking actions to meet the needs of the Nation's work force.

This strategy must also take into account the evolutionary changes occurring with respect to the American financial institutions. For example, in addition to making home mortgages, savings and loans institutions currently have the administrative authority to make consumer loans. Further, banks now have the ability to offer depositors money market accounts. Another aspect of financial institution deregulation is that many banks and brokerage houses want the authority to provide the financial services offered by the other.

Despite all of these evolutionary trends occurring in the economy, little attention has been given to their impact on the ability of

smaller firms to obtain an adequate source of capital at a reasonable cost.

A national commitment to the fostering of startups and venture capital is one important avenue of meeting the capital needs of small- and medium-sized firms. This commitment can be met through such incentives as a capital gains rollover proposal or capital gains reduction targeted to investment made in startups.

With respect to any policy that we develop on behalf of startup businesses, we must insure that the policy is balanced in scope. In addition to meeting the capital formation needs of small high technology firms, we must also insure that more traditional small business investments receive adequate sources of investment capital.

On that basis, this subcommittee begins its first in a series of hearings on small business and its ability to meet its capital formation needs in a rapidly changing economy.

We have, I believe, a very informed group of witnesses on this subject. I would like to start right in with the testimony, and for that purpose, we would like to have Stanley E. Pratt, who is the president of Capital Publishing Corp. He is publisher and editor of the Venture Capital Journal and the Guide to Venture Capital Sources. He has had over 25 years' experience in investment banking, management consulting, and venture capital.

It certainly is a pleasure to have you, Mr. Pratt, and all of your testimony which you have submitted will be incorporated into the record.

TESTIMONY OF STANLEY E. PRATT, PRESIDENT, CAPITAL PUBLISHING CORP.

Mr. PRATT. Thank you, Mr. Chairman.

I am not going to read my statement which I would like to have entered into the record, of course, but I am going to summarize it and try to highlight a few of what I feel are the important points.

I will add a little bit of background on our company, since I will be presenting a large amount of statistics and numbers. You should understand where these come from. We follow the entire professional venture capital community and have a data base now of some 4,100 investments made by venture capitalists over the past decade.

What we try to do is take all of their individual activity and aggregate it together so that we can show them what their forest looks like, as well as you people that have the ability to influence the process.

I am very delighted to have the opportunity to testify here today because the Congress has really been the factor that has brought about a lot in the past, say 4 or 5 years, in helping the process to work better.

I want to bring out one thing first and that is, what is venture capital and how do we define it, because it is sort of an amorphous term and everybody sort of wonders what are they really talking about.

Very simplistically, I define "venture capital" as the business of developing new businesses. It is, in fact, not really an investment business, and matter of fact, the industry was almost destroyed

back in the 1960's and 1970's when it was dominated by financial investment people.

It is basically the business of developing businesses, as I say, and the principal criterion for a successful venture capitalist is the ability to work with people. It is not financial and quantitative skills; it is qualitative skills of being able to work with very difficult people.

As a matter of fact, my favorite one-liner is that the only people in the world with bigger egos than venture capitalists are the entrepreneurs they have to subvert their egos to for 5 years, which gives you some idea of how this process can be difficult.

They employ a very small part of our Nation's resources. Today we estimate about $7.6 billion at the end of 1982. That relates to about $750 billion in pension funds. I guess it is down now to about $150 billion in money market funds, which I consider the least productive use of money, and we like to feel the venture capital is one of the most productive uses of money.

Venture capitalists are dealing primarily in what we call the sunrise new businesses, as opposed to the sunset businesses. They are trying to focus their energies in business development on new industries, new businesses. It is a market-driven process, and I think this is extremely important for people to understand. It is not driven by products; it is driven by the entrepreneur's perception of a market need. It is basically markets in search of products and not a product in search of a market.

Perhaps the single most important factor in venture capital is the long-term discipline. The long-term discipline both on the part of the venture investor and on the part of the entrepreneur. It is very critical to realize that the process is driven by entrepreneurs, not by venture capitalists. A venture capitalist is really a useless commodity unless he has an entrepreneur through whom he can work to help build that business.

I will sound like a stuck record even in the few minutes that I am here talking about long-term disciplines, but I feel that that is the key and where we hope you can help us in providing some sort of carrots and incentives to stimulate long-term thinking, which is what builds new businesses, what builds the creation of wealth, what builds everything of lasting value. It is not the current mood of instant gratification and very short-term investment that people seem to be living by in our society today.

I want to take a quick look at the growth of our industry in the past decade and show you a few things and how the Government has been able to influence the process, sometimes negatively and sometimes positively.

You will see on exhibit 1 of my testimony, we track the new private capital that has been committed to venture capital firms each year from 1969. This capital goes into the existing pool of capital which, in 1969, was about $2½ billion.

You will see that in 1969, when the Government increased capital gains taxes, you had new funds committed into the industry of about $171 million. Not only were capital gains taxes increased, but a very important consideration that is missed by some was that at the same time they reduced the maximum tax on salary income, or on earned income, from 70 to 50 percent.

Consequently, they eliminated the differential between salary income and income from long-term development or the type of investment that requires patience and the type of building that requires patience. Consequently, major corporations were able to keep the potential entrepreneurs by saying:

> Why are you going to go out and work twice as hard in small business to build something when, if you are successful, the government is going to tax it all away?

The maximum tax on capital gains was 49.2 percent, the maximum tax on earned income was 50 percent. So you had no differential, no carrot to bring the entrepreneur out, and no carrot to attract venture capital.

As you can see, what happened here was that the new moneys into the industry went down. To summarize that very quickly, in the 8 years, 1970 through 1977, you had a total of $466 million into the process, which was about matched by the withdrawals. So consequently, at the end of 1977, your process was still about $2½ billion.

When Congress reduced the capital gains tax in 1978, recreating that differential, initially at 28 percent versus 50 percent, then later down to 20 percent versus 50 percent in 1981, look at what happened to the process. In the first year, you had $570 million in, more than in the prior 8 years.

In the 5 years through 1982, you have had almost $4.8 billion, or more than 10 times the amount that came into the process for the 8 years when the capital gains taxes were increased.

If you really want to see some aversion to risk, look over at the right-hand column and you will see what happened in the public marketplace where in 1969, 698 companies, with a net worth of $5 million or less, were able to raise $1.367 billion. By 1975, only four companies were able to raise the staggering, enormous amount of only $16 million.

You will see that also snapped back with the capital gains tax reduction. So we think that this points out the clear need to have some sort of differential, some sort of carrot for the entrepreneurs and the venture capitalists alike.

I want to look a little bit at economic benefit that we discuss in here. You have probably seen the report that we did for the U.S. General Accounting Office at the request of Senator Bentsen, who was then chairman of the Joint Economic Committee, whereby we showed that 61 percent of all venture capital investment in the decade of the 1970's was related to productivity increase.

We find today on our computers that that runs 75 percent, even possibly close to 80 percent of all venture investments are in products and services related to productivity increase.

Also, as part of that study, we analyzed only 72 public companies because, quite frankly, this was at the end of the contract and we had run out of funding, but they said, can you develop some quick information for us. We analyzed only 72 companies that were public and found that with those companies aggregate investment by venture capitalists of only $209 million in the 10-year period created 72 companies with aggregate sales in 1979 alone of $6 billion. They created 130,000 jobs, paid $450 million in Federal taxes, and created export sales of $900 million.

That must be quite staggering to most anybody who reads those numbers. You will see that if you divide that out, 130,000 jobs, that is about $1,600 worth of equity, only equity investment, per job. Normally we think in terms of about $30,000 investment per job created.

If startup investment is what you are trying to devote your most efforts to today, this is a process that will go back and forth, depending upon the opportunities and the incentives that are given both to entrepreneurs and to the venture capitalists that are supporting the entrepreneurs.

In the 1960's, you had mostly startup investment; in the 1970's, it was mostly expansion, only about 10-percent startup investment for several reasons. They were financing the companies they were already in, and the opportunities in the late 1970's in expansion financings were providing the same returns that the high-risk startups might provide also.

When the new money came into the industry in 1978, 1979, and 1980, we saw a shift back toward startups to where almost half of all of their activity in 1981 and 1982 related to startup and very early stage financing activity.

This is in danger, again, however, because of a trend we see today of very short-term thinking. People are getting used to very short-term, high profits, some of which we think are not going to hold up. The stock market frenzy has created opportunities to realize enormous quick returns and we see some noses coming off the grindstone for long-term development with the idea of recognizing the short-term returns.

It will happen, and it should happen. I see nothing wrong with being opportunistic and realizing the returns while they are there, but I hope that we can maintain the long-term disciplines and I think we need some help from you people in order to do that.

I want to touch generally now on what I feel Congress or government should do, and that is more toward environmental factors, rather than targeted measures. I feel that whenever we get targeted measures in small business or venture capital or entrepreneurship, big business only waits a little while and then comes in and says, OK, they have had theirs, now give us our due.

This is what has complicated all of our tax structures. The capital gains tax reduction is a perfect example of nontargeted simplicity because it was for everybody, but it so happened to be of more use to small business and venture capital and those entrepreneurs than it was to large business.

Looking at your bill, I would like to make a few comments to summarize. First, I would like to say the specific things I look for that I would like to see are: To improve incentive stock options for management rewards. They are the driving part of the process. We need incentive stock options whereby they are taxed only when they effectively receive the moneys to be able to pay the taxes; not being taxed on unrealized income.

I want to encourage long-term investment with a sliding scale of capital gains tax rates. You have addressed that in one of your proposals. I would like to reduce the early tax burdens on new and developing businesses; you have done that, also.

I would like to encourage increased pension investment in the specialized professionally managed venture investment vehicles. That is something that is being taken care of today. We are watching what is going on in the Department of Labor very carefully.

I also feel that we need greater continuity and strength in the Small Business Investment Company program that has been somewhat emasculated by not knowing whether or not we are going to have the leverage that is available to lever the private capital of the private sector using the government guarantees.

So corporate tax reduction in your bill, I think, is extremely effective. I would support it very much. I have seen cases where companies have had to actually go out through an expensive round of financing just when everything was starting to look good, primarily to pay taxes. Those smaller businesses need to reinvest their profits at that point and then get into paying taxes a little bit later when they get some meat on their bones.

The provision for capital gains tax reductions I very much agree with that you have come up with. I would like to add a little bit different twist with a little bit of pragmatism. I believe that people need to be pushed with these carrots a little bit more than maybe you think because they do not go into long term because they ought to, only because there is a carrot or a stick.

What I would like to see there is a reduction with a 3-year holding period to a 10-percent capital gains tax level with elimination of all capital gains taxes after a 5-year holding period. That way, I think we would get people to hold on to things for more than instant gratification.

The parity of corporate and individual tax rates for capital gains is extremely important. I sent some data to the Treasury Department a few months ago showing that at least over half and probably close to two-thirds of the venture capital industry is, in fact, taxed at corporate rates, not at individual rates.

So it is extremely important that we reward those people in the same way that we are rewarding the individuals for long-term capital investment.

I must admit that I am not particularly enthusiastic about a tax credit on investments in new small businesses. Principally because I feel that throwing money at a wall and hoping that something falls out of it that is useful is not a very efficient tactic.

We have done a great deal of work in the United Kingdom and we feel that their tax scheme that they have had that does this, in essence, is not working particularly effectively. As a matter of fact, they have just changed it to include expansion rather than just startup of new companies.

The problem here is that you do not want to just go out and start new companies, you want to start the new companies that have a chance to become successful. Therefore, you do not want the investor measuring by how much taxes I can save; you want the investor measuring by what is the potential of this investment and can I make money and can it be successful. I believe it would encourage more startups, but I—as you can see—am not very enthusiastic about it.

Rollover provisions, I do tend to support. That is the one area that I feel I can deviate from my own path of not having any tar-

geted tax measures, because I have not found any other way to do it. If you do have a rollover provision for smaller businesses meeting the SBA small business codes, I think that that might work.

I think if you can keep more capital in the process, rather than having it taxed every time a realization comes about, you are going to be a good deal better off.

In summary, I may sound like a stuck record, but I really believe that the most beneficial action to approve new business creation and development is to provide for a clear differentiation of a greater reward for patient involvement over a 3- to 5-year period.

The entrepreneur and the venture capital investor must accept that long a period of their risk and their dedication and that longer-term orientation is both unusual in today's society and must be stimulated if we are going to achieve the potential that I think our Nation has in this time of the transfer to an information-based society. I think there will be many, many more opportunities for small business than there ever have been in the past.

I thank you very much for the opportunity to speak to you here today.

[Mr. Pratt's prepared statement follows:]

PREPARED STATEMENT OF STANLEY E. PRATT, PRESIDENT, CAPITAL PUBLISHING CORP.

Mr. Chairman and members of this distinguished committee, I am Stanley E. Pratt, president of Capital Publishing Corporation of Wellesley Hills, Massachusetts, specialists in information services and publications related to the financing and development of new and emerging growth businesses. Our Venture Economics division, through a computerized database of more than 4,100 companies backed by the organized venture capital community, provides information, research and consulting services related to business development investment to a broad range of major corporate, institutional, investment and governmental clients. These activities are both national and international in scope, and we have also provided data and testimony for a number of government agencies, as well as background for the national and international media. I am also publisher and editor of Venture Capital Journal which has been reporting and analyzing business development investing since 1961. In addition, I am editor of Guide to Venture Capital Sources, now in its seventh edition, which through articles and directories serves to assist entrepreneurs to locate development capital. I have had more than 20 years experience in investment banking, management consulting for smaller businesses and venture capital prior to acquiring the business of Capital Publishing in 1977.

I am delighted to have the opportunity to testify here today, since it is clear to those of us that have worked to improve the business development investment climate that Congress has been a leading factor in recent positive government attitudes and developments. My comments will present a brief analysis and survey of the role and nature of venture capital investment and will discuss the effect of specific tax measures that have had or can have significant impact on the revitalization of our nation's economy.

PROFESSIONAL VENTURE CAPITAL

Perhaps the first question to answer is the most common one asked: what is venture capital? Venture capital is the business of developing new businesses. It is a long-term process in which venture capitalists have direct ongoing involvement with the entrepreneurial management team that is developing the new business. Professional venture capitalists employ a small segment of our nation's capital resources along with their personal experience and expertise to assist entrepreneurs to develop new growth businesses, the most productive segment of the U.S. economy. Seeking exceptional long-term investment returns, venture capitalists rely principally upon qualitative judgments rather the quantitative orientation of most institutional investors. Venture capital covers a wide range of investment interests from startup until the company being developed can attract continuing investment capital from traditional institutional and public market sources.

Venture investment management firms are a specialized vehicle for pension, institutional, corporate and individual investors that cannot give each investment the personal involvement and value-added so critical in developing "sunrise" new businesses that do not have the experience and management infrastructure of established, "sunset" businesses. I am sure you are all well aware of the data which shows the disproportionate economic benefit and innovation from small and medium sized businesses. Building vibrant new businesses has become even more important, however, now that the shift from an industrial to an information-based society is happening today, not tomorrow. Our nation is presently a leader in the information-based businesses that may well be the key for successful international competition as markets become global. Information is power and widespread availability of information decentralizes power. International competition, under these circumstances, will require decentralized businesses. No nation on earth has the tools, resources and demonstrated capability of the United States to create and develop dynamic new businesses.

Success breeds success in a process driven by entrepreneurs. It must be remembered that entrepreneurs are the single most critical component of the business of developing new businesses. They must assume the great personal and financial risks of the development process and will be so stimulated when they perceive the availability of financial support together with expectation of exceptional personal and financial future rewards.

The growth of the venture capital industry in the past five years, from less than $3 billion in 1977 to its present $7.6 billion has been dramatic, but the industry is still a very tiny segment of the U.S. capital markets. Pension funds alone have total assets in excess of $750 billion and money market funds, perhaps the least productive use of capital, have, until recently, controlled assets of approximately $200 billion.

It is very interesting to note the growth of the U.S. venture capital industry and its annual disbursement activity since 1969 as evidenced in Exhibit 1. We choose to begin this examination in 1969, since that was the year in which the U.S. government increased the maximum tax on capital gains profits from 25 percent to 49.2 percent and in addition, reduced the maximum tax on payroll compensation from 70 percent to 50 percent. This had the effect of eliminating any differential to provide incentives for both investors and entrepreneurial managers to assume the long-term risks of new business development. Significant capital gains profits were thus taxed the same as ordinary income even though new business development entails very substantial risk. In 1969 the total pool of capital, at cost, committed to venture capital funds was approximately $2.5 billion and in the succeeding eight years the minor additions to capital were just about equal to the withdrawals from the pool. In 1978 when the U.S. government reestablished the differential by reducing the maximum capital gains tax to 28 percent (which has since been reduced to 20 percent for individuals) the venture capital investment process received a dramatic transfusion of new capital. Note that the $570 million received in 1978 alone was in excess of the total of $466 million that had been received in the prior eight years. Total new capital commitments in the past five years have been almost $4.8 billion, or more than ten times the amount received during the prior eight years when the maximum capital gains rate differential had been diminished.

Although the rate of disbursements by venture capital funds of financings to portfolio companies fell from $450 million in 1969 to a low of $250 million in 1975, this was not as dramatic a reduction as the capital inflow since venture capitalists were investing from their aggregate pool of $2.5 billion and were reinvesting profits, principally received from acquisitions of portfolio companies by larger corporations. With the capital infusion that started in 1978, disbursement activity increased dramatically as entrepreneurs, recognizing that investment capital was now available, entered the business development process and provided a healthy flow of new investment opportunities.

The final two columns of Exhibit 1 show the almost total risk aversion of the public stock market that developed with regard to new securities flotations of companies with a net worth of $5 million or less. In 1969, 698 companies received almost $1.4 billion from this sector of the capital marketplace, while in 1975 only four companies were able to attract only a minute $16 million. Here again, this situation dramatically improved with the capital gains tax reduction in 1978.

The capital inflow and venture capital investment in long-term opportunities expanded dramatically in 1981 and 1982, even when recessionary pressures slowed much capital investment. As long as increased present risk is perceived to be compensated by potentially greater future rewards, entrepreneurs and venture investors will remain active.

From this broad background, my testimony will stress:

Economic benefit from venture capital investment in productive new businesses.

Startup venture capital investment and the factors that influence new business creation.

Critical factors for governmental policy considerations.

Specific governmental consideration for incentives.

ECONOMIC BENEFIT

It is now beginning to be clearly demonstrated that venture capital investment produces disproportionate economic benefit when considering the small size of the industry. Venture Economics' computer data base of more than 4,100 venture capital investments has been able to provide some interesting observations. In a study that we undertook for the United States General Accounting Office, which was released in August 1982 with a report to Senator Lloyd Bentsen, former chairman of the Joint Economic Committee; we found that 61 percent of venture capital investment in the decade of the 1970s, based upon the 1,332 investments recorded at that time, was invested in companies which had products or services related to productivity increase. More recent data indicates that this percentage has grown to more than 75 percent. The GAO study also looked at other economic benefits created by a small portion of the productivity related companies. We reviewed indepth only 72 companies developed during the 1970s that had securities registered in the public stock market in 1979. This small sample was analyzed since data on publicly traded companies is readily available. The following data clearly highlights the economic benefit produced during the 1970's from venture capital investment of only $209 million during that period.

GAO.—72 public companies

Venture Capital Investment 1970–79 (million)	$209
1979 aggregate sales (billion)	$6
Jobs created	130,000
Corporate taxes (million)	$100
Employee taxes (million)	$350
Export sales (million)	$900

The job creation is especially notable since a U.S. Department of Commerce study based upon 1976 census data indicated that in the prior 10 years, the 1,000 largest corporations in the United States did not create one net new job—new employees merely offset prior ones. Their data showed that nine million new jobs had been created during that period, of which six million were in smaller businesses, the area in which venture capitalists invest, and three million were governmental employees.

Venture capital investment provides the following benefits:

A superior return on investment.

Improved productivity.

Increased employment.

Higher tax revenues (employee and corporate).

Increased exports.

More rapid innovation at lower cost.

A secondary effect of increased demand for products and services required to support rapidly growing new businesses.

VENTURE CAPITAL INVESTMENT IN STARTUPS

Prior to the 1960's most venture capital investment was in startups for the creation of new businesses. Since the business development process requires ongoing support, expansion financings of prior startups logically became a growing factor in venture capital investment during the 1960's. After the mid-1960's, however, later stage financings that were expected to lead to stock market initial public offerings within 18 to 24 months became the principal activity of many venture capital investors. This short-term orientation almost destroyed the venture capital industry after 1969 when increased capital gains taxes and the decreased differential between taxes on capital gains and on ordinary income effectively stopped new long-term investment. Venture capitalists, during the 1970's, had to concentrate on financing and working closely with those companies that were already in their portfolios. In the mid-1970's venture capital investment in startups was less than 10 percent of their activity. Since other sources of continuing financing were virtually unavailable, venture capitalists were able to realize the exceptional returns normally attributable to startups on later stage investments made in the mid to late 1970's.

When the new capital inflow, stimulated by the 1978 capital gains reduction, commenced in 1978, the principal capital gap was still for businesses that had been fighting for survival for the past few years. With the environment now conducive to business development many of these developing businesses were able to achieve dramatic success quite quickly and provided role models for both entrepreneurs and venture investors. By mid-1980 competition for expansion financings quite naturally pushed such investment prices higher and venture capitalists turned again to startups in search of exceptional rewards. By 1981 startups and early stage investments represented more than half of all venture capital investment activity and this momentum carried on throughout 1982.

With the larger size and increased activity of the venture capital industry in the 1980's, venture investors have generally been able to continue startups and new business creation even while they were providing ongoing financing for prior startups. It must be emphasized, however, that each startup will generally require several rounds of additional financing if it develops successfully. Consequently, the business development process requires the capability of ongoing financial support to be anticipated at the time each startup is undertaken.

There are several factors for concern in 1983. The most important of these is a potential erosion of long-term investment disciplines. The frenzied stock market activity, especially in initial public offerings, is encouraging the perception of unusually high short-term financial returns that can erode patient development disciplines. A number of developing businesses are able to achieve initial public offerings before they have developed the financial performance necessary to survive the quantitative analytical scrutiny of the public stock market. Investments made with a dominant consideration of short-term profit will often bring disappointment and as short-term investors abandon these companies, a favorable environment can become a disaster very quickly. As public market and even institutional private investors become disenchanted with short-term results, venture capitalists will have to accept longer periods of involvement and greater financial investment in order to protect and continue the development of their portfolio companies. Consequently, we expect there will be periods where startup and new business creation activity may once again be adversely impacted.

The long-term investment disciplines so critically required for new business development are, as a practical matter, not entered into or maintained because investors know that this is the best way to achieve exceptional long-term results. The influence of short-term performance pressures in our nation's capital market structures is too strong to be overcome by generalities. Tangible incentives must be in effect in order to encourage the perception of exceptional bottom-line reward for practicing long-term investment disciplines. If entrepreneurs and venture capitalists alike are promised greater after-tax reward for successful business developments that require three to five years of very substantial involvement and commitment, they will exercise the required patience.

CRITICAL FACTORS FOR GOVERNMENTAL POLICY CONSIDERATIONS

To build upon our nation's current expertise in knowledge and information-based businesses, the most critical factor for government policy consideration is the fostering of a vibrant entrepreneurial environment. Entrepreneurs are the driving force of new business development and must perceive exceptional rewards for the risk taking that brings unusual accomplishment. The greater availability of knowledge and information should provide increased entrepreneurial opportunity and more effective utilization of talent.

Focus must be placed on building diversity into a balanced economy. Local economic development organizations are now recognizing that a number of dynamic growth businesses provides a more stable economy than dominant major industries or employers. We must revitalize rather than reindustrialize. This revitalization can best be accomplished through the types of businesses supported by professional venture capital investment. Many large corporations now recognize that new business development is most often better accomplished by independent innovative companies. Much of the recent corporate acquisition activity seems to be motivated by a desire for revitalization rather than merely diversification. It should be noted that a major number of profit realization for venture capitalists still comes about through acquisition rather than successful public stock market offerings. In many cases a larger corporation can efficiently exploit opportunities identified and developed by entrepreneurs.

It is critical to encourage long-term investment disciplines. The current mood expecting instant gratification in our society has seriously weakened our ability to

build long-term values. Venture capitalists must generally wait three to five years before they are confident of a successful investment while pension funds and large corporate managers are measured by quarterly performance and stockmarket investors consider themselves long-term if they wait one day before calling their broker. Most successful new business developments occur over the long-term and most wealth created through investment has involved patient disciplines. While recent venture capital activity has provided a dramatic increase in long-term equity capital, there is still a significant capital gap for all types of long-term capital investment to support continuing business expansion.

While productivity increase is recognized as a major challenge for the nation in its international relationship, it also represents one of our greatest opportunities. Effective utilization of increased knowledge and information builds more efficient businesses which provide broad economic benefit and improved life-styles. Increased productivity can be stimulated through increased incentives for those who will take long-term risk. Venture capitalists and the entrepreneurs that they back are driven by the expectation of future rewards rather than by short-term current profits.

If government can foster and encourage a favorable environment for new business development, most of the specific actions required can be accomplished at the grass roots. Effective new business development most often results from coordination of local infrastructures from the business, financial and university communities with supportive local government involvement. It is a popular misconception that Stanford and Harvard/MIT were primarily responsible for the Silicon Valley and Route 128 economic miracles. While they were a significant factor, success could not have been achieved without a great deal of support and cooperation from the other sectors of the local infrastructures. Each of these centers built upon their strengths and encouraged entrepreneurs and venture capitalists to create opportunities, which in turn fostered continuing opportunities. As we all know, success is the most powerful force to create future success.

SPECIFIC INCENTIVES

In attempting to foster an environment dedicated to change and vitality it is generally most effective to employ overall rather than specifically targeted incentives. In the competition for targeted incentives, established organizations that will normally be opposed to change will generally have the largest voice and in the end gain the greatest targeted benefits. The 1978 capital gains tax reduction was a classic example of non-targeted stimulus, since it applied to all investment but focused increased attention upon those companies that required continuous external capital injections to grow and succeed. The types of incentives that should be most effective in revitalizing the economy will be those that motivate individuals and private sector businesses to overcome the obstacles and do the job themselves, rather than rely upon institutional crutches. Specifically, we would encourage consideration of the following proposals:

Improve incentive stock options for management rewards.

Encourage long-term investment through a sliding scale of capital gains tax rates to lead to elimination after a five-year holding period.

Reduce early tax burdens on new developing businesses through a reduction of income tax rates or deferral until substantial profits have been recognized.

Encourage increased pension investment in specialized vehicles for employment in young productive businesses.

Provide for greater continuity and adequate funding in the Small Business Investment Company program of the Small Business Administration for increased investment in equity and term loans for small business through this unique government/private sector partnership, managed by the private sector.

Certain of these concerns are addressed in the proposed H.R. 2543, the Small Business Capital Formation Tax Act so I will comment on the key sections.

Corporate tax reduction for emerging growth businesses would certainly be an effective stimulus for growth during a very critical period in the development process. As a new business finally achieves profitability it is often difficult to have to divert hard earned profits to pay taxes when reinvestment of earnings, at that critical juncture, could provide far greater reward in the medium and longer term. There have been companies that have been forced into a round of expensive equity financing in order to pay taxes just as the business is beginning to demonstrate its potential earning power. This can cause an interruption in the momentum of successful business development when the principal concern is to effectively reinvest and employ all of a company's resources for future growth.

The proposed provision for capital gains reductions on equity investments in small business employs a concept that I believe is most critical for the ongoing development of new growth businesses. If entrepreneurs and investors can receive tangible additional reward for patience and fortitude, longer term orientation can be achieved. While I will enthusiastically support the current proposal, I would, however, prefer a stepped process to attract greater practical utilization. Today's mood of instant gratification would be more likely swayed by a reduction to 10 percent capital gains taxation after a three year holding period, reducing to elimination of capital gains taxes after a five year holding period. As I mentioned earlier, I am also wary of targeted tax benefits that can be overshadowed subsequently by well organized big business interests seeking their "due."

Since more than half of the capital employed in the professional venture capital industry is taxed at corporate rates, I am strongly in favor of corporate parity with individuals on long-term capital gains tax rates.

I am sure that you have recognized my personal bias towards long-term investment orientation and this leads me to be substantially less enthusiastic about a tax credit on initial investments for business development. Venture capitalists, in the highly selective process of new business investment, are principally motivated by their perception of the ultimate success achievable by investment opportunities. Successful new business development is seldom achieved by "throwing money at a wall" and hoping that some winners will fall out. While I am sure that a tax credit provision would stimulate new business formations, it might also encourage misguided financings that could taint the business development process. New ventures require support from investors seeking growth of capital rather than those seeking conservation of capital through tax reduction.

Capital gains rollover provisions would certainly retain investment capital in the most productive segment of our economy and would greatly increase the venture capitalists' ability to recycle profits back into early stage investments. This is one area in which the potential benefits outweigh my reticence towards targeted tax legislation.

I will not comment further here on the matter of management incentive stock options since I understand that the testimony from the National Venture Capital Association will address that matter. Suffice it to say, that this is one of my principal priorities in order to encourage and reward the most important single factor in new business development, entrepreneurial business management.

In summary, while I may sound like a stuck record, the most beneficial action to improve new business creation and development is to provide for a clear differentiation of greater reward for patient involvement over a three to five year period. The entrepreneur and the venture capital investor must accept that long a period of risk and dedication, and that longer term orientation is unusual in today's society. I am confident that the short and long-term economic benefits to the nation of effective incentives to reward such patience will more than repay today's efforts to redirect investment attitudes.

Thank you for the opportunity to address you today.

VENTURE CAPITAL INDUSTRY ESTIMATED FUNDINGS AND DISBURSEMENTS

[In millions of dollars]

Year	New private capital committed to Venture Capital firms	Estimated disbursements to portfolio companies	Public underwritings of companies with a net worth of $5 million or less	
			Number	Amount
1982 (estimate)	$1,700	$1,800	(113)	$619
1981	1,300	1,400	(306)	1,760
1980	900	1,100	(135)	822
1979	319	1,000	(46)	183
1978	570	550	(21)	129
Capital gains tax decrease:				
1977	39	400	(22)	75
1976	50	300	(29)	145
1975	10	250	(4)	16
1974	57	350	(9)	16
1973	56	450	(69)	160
1972	62	425	(409)	896

VENTURE CAPITAL INDUSTRY ESTIMATED FUNDINGS AND DISBURSEMENTS—Continued

[In millions of dollars]

Year	New private capital committed to Venture Capital firms	Estimated disbursements to portfolio companies	Public underwritings of companies with a net worth of $5 million or less	
			Number	Amount
1971	95	410	(248)	551
1970	97	350	(198)	375
Capital gains tax increase: 1969	171	450	(698)	1,367

Total capital committed to the organized venture capital industry estimate at Dec. 31, 1982

	Billions
Independent private venture capital firms	$4.1
Small business investment companies	1.3
Corporate subsidiaries (financial and nonfinancial)	1.9
Total	7.6

NOTE.—This pool remained static from 1969 through 1977 at some $2.5 to $3.0 billion (with new fundings more or less equal to withdrawals).

Source: Venture Economics Division, Capital Publishing Corp.

Mr. NOWAK. Mr. Pratt, thank you for your testimony. I think you summarized in a very effective fashion what we are trying to do with some of these initiatives. We have taken a look at many initiatives, some overt, and we talk about incentives. Most of the loopholes that people talk about in the Tax Code are really incentives to push this economy forward one way or another. When we look at this, certainly the general remark that you have made, the basic thrust of your testimony, about putting together an incentive that keeps capital together and keeps capital invested for the long pull has been criticized generally throughout not only the small business community, but the large business community. The pressure has been to make the instant profit and not worry about R&D development or anything else, even in our major corporations, as we strive to try to remain competitive throughout the world economy.

I would like to just focus a couple of questions on that basis. When we talk about this transition that we have gone through, I represent a heavy industrial-based area in steel and auto. I think many others have felt the effects of some shortsightedness in terms of investment and R&D to overcome the movement from the U.S. manufacturing base into others throughout the world where you can get a lower labor unit cost, transferring a vast amount of assembly and manufacturing jobs to those areas of the world.

I wonder how we can cope with that transformation and the transition? We believe it is only in auto and steel because they were the highest paid workers in the country. There has not been enough long-range term planning in those industries and we have been overtaken by Japan and others.

But now Japan and others have looked into some of the Third World countries, specifically Taiwan and Korea. Brazil has started large industrial parks and has pulled away huge amounts of manu-

facturing so that we do have what I almost consider now a structural unemployment program.

How do we make that adjustment in terms of our labor force? We thought it was only in those large industries that had matured over many, many years, but now in the last few months, we see Atari taking 1,700 people from the Silicon Valley and shifting their plant and equipment over to Taiwan because they can get labor at $2 an hour, rather than the $6.60 an hour rate that they were paying.

I wonder if you have any general comments on that long-range planning?

Mr. PRATT. Yes, I think the long-range planning is somewhat important and I think we have to plan our Nation's transfer from an industrial-based society to a more information-based society. It is already happening.

One of the most interesting things that we pulled off of our computer a while ago was that one of the fastest-growing States in venture capital investment from a low base to a higher base, but still a low base overall, is Michigan. Principally, we are finding that in many cases, the entrepreneurs have been coming out of the larger companies who had thought that they were going to stay there forever, but they are coming out.

One thing that I found in a lot of the work that we do in the Midwest is that they are scared of the words "high technology." Remember one thing: Venture capitalists very seldom invest in high technology. They almost never invest in new technologies; they invest primarily in applications of existing technology to meet today's needs.

What we see happening in the industrial Midwest of this country is a tremendous development of, for example, the robotics business. There is no clearer relationship to application than in a robot. You do not build a robot unless you know what you want it to do.

Well, the person that knows what it is to do is the person on the production line. It is not the technology freak in Silicon Valley, and it is not the software freak on Route 128. It is the guy who really knows what the production line is all about.

Now, they will buy that talent from Silicon Valley and they will buy that talent from Route 128, but believe me, many of the businesses being formed today in Ohio, Michigan, and throughout the Midwest, are interested in industrial automation.

I was quoted in the New York Times from a bit of a flip comment that I made, but I think it bears a lot of truth. I said I thought the Silicon Valley of robotics would start in Detroit and end in Indianapolis. Of course, I got the people in Cincinatti very mad at me, but I do believe that you are going to see that sort of thing happening.

You are going to need a lot of retraining. It is not going to be easy retraining and some of it is not going to have to be visible as retraining. That is an area that, as I testified before the Senate Finance Committee—where they had asked me particularly—I think the Government can help to stimulate retraining programs. I do not think you want to go to the production line and pull these people out and say, we are going to train you to become computer jocks. What I think you want to do is go say, we are going to give

you the opportunity of going through a training program and it just happens that you are going to use personal computers or small computers.

All of a sudden, they start getting familiar with them. I found this happened to me. I thought that I would never understand a computer and yet I sit there and use one now only because that is what was thrown in front of me with a spread sheet and I said, "Here, you figure this out yourself."

It can be done. I think it is going to take a lot of time. I think that in some cases, foreign countries—and we happen to do a lot of work in Third World countries now and in other industrialized countries—I think some of the production process is going to be taken away from us.

I do not think that is all bad because I think that what we have to do in the longer range thinking is to think what is it that will bring a better quality of life for our labor force in doing other things than the most boring thing in the world of standing on a production line.

You do not need super-high-trained people in order to apply today's technologies to many, many things in life. So I think that the training program first is going to have to take away the fear of high technology.

Mr. NOWAK. It would seem we could make some longer term commitments in both investment and training and some focus that what you are proposing could actually happen. I think there is a lot of truth in that kind of a transition, but it is going to take an awful lot of work to bring that about. This short-term look at profits is going to hurt that effort. If we do not get into some longer term incentives, as you are suggesting here, we are not going to be able to make that transition and we are going to have this kind of nonproductive labor force out there for much too long a time.

Let me now turn to Mr. Vandergriff from Texas.

Mr. PRATT. Yes, sir.

Mr. VANDERGRIFF. First of all, Mr. Chairman, let me apologize to you for being tardy and to you, Mr. Pratt, as well. I did miss the bulk of your testimony and I will read it with great interest and perhaps will have other questions that I will want to address to you after I have had a chance to read it in detail.

Mr. NOWAK. For that purpose, we will leave this record open for members to have the opportunity to ask questions of everyone who testifies.

Mr. VANDERGRIFF. Thank you, Mr. Chairman.

I did hear some reference to your reservation about tax credit provisions.

Mr. PRATT. Yes, sir.

Mr. VANDERGRIFF. This is a subject that concerns me more than it did before I found that the net result of our tax credit provisions across the whole gamut of our legislation now forgives something like $300 billion annually in taxes. That would do wonders in terms of overcoming our deficit.

But it is a device that is looked upon as a key, generally, to providing the kind of relief or achieving the kind of goal that we are talking about with regard to this specific piece of legislation.

I wonder if you could expand upon that concern of yours just a bit more than I heard in the brief time I was here during your testimony.

Mr. PRATT. I have always been quite reticent on tax credits in this business. I guess I got against tax credits because large businesses really did not help us that much, as you probably know, in the capital gains tax reduction.

Why? Because they do not use it and they just said, look, I just want another little tax credit and that is all we need for our type of investment. The problem is that smaller businesses do not have much tax to pay; they are still struggling to get profitable.

Then when they finally do, they get stung by taxes. Well, a tax credit—an investment tax credit is not going to do that that much good.

My major philosophical problem with tax credits from the investment side go down to something very simple. The building of dynamic new businesses is done with people who are seeking growth of capital and not people who are seeking conservation of capital.

Tax credits are basically for people who are seeking conservation of capital; they want to pay less taxes and hold on to more money. It will stimulate activity, but I do not think it will stimulate the type of activity that we are looking for.

When the SBIC program first started, people just sort of went out and threw money at a wall until they learned the process, until they learned it was a process of building something and not of being stock-pickers and trying to just grab something quickly.

In the business of venture capital and in the business of creating significant new businesses, anything that diverts you from the long-range feeling, I feel, is detrimental to the process. In the United Kingdom, they had a tax scheme whereby you get a tax credit every time you make an investment in a small business. What they found was that an awful lot of investments were made in businesses that never should have been funded in the first place.

Mr. VANDERGRIFF. Strictly because of the tax credit incentives?

Mr. PRATT. That is right. We have found, for example, one of the problems that I have with R&D partnerships in the venture capital process. When a business is successful and goes back to its shareholders for more financing—remember that every business that is successful generally goes through three, four, five rounds of financing in its development process. It does not just start out and then become successful and become a major business. It reaches certain points and gets more.

What we found was that when a business was started primarily because of a tax scheme and grew successfully, they would go back to their shareholders and say, well, we need some more money for future growth, and the shareholders would say, excuse me, I first have to check with my accountant to see if I need more tax credits or more tax shelters. They were not really thinking about growing anything; they were thinking only about what is my tax position?

To me, the venture capitalists epitomize, because of their locked-in, long-term relationship, the people who have to think about future growth and building, rather than conservation.

I think that is the attitude that we need. Now, I am not saying that you will not get some businesses started that would not get

started, and maybe some of them will be successful. It is a very selective process.

Venture capitalists are not always right. As a matter of fact, some 60 percent of their investments are not good investments historically. Lately they have been a little bit spoiled and they have not had too many lemons in their portfolios, but they are starting to show up now.

We are going to see more and more of these failures. It must be a selective process. It cannot be a process that is started just because there is money around to throw at a wall; it has got to be started because the person has the ability to define an idea and to get people to back it for longer term success.

That is what, to me, makes a business generally become successful; to have the commitment to go the long term, not just, well, I am going to start a business now and I do not know if it is going to be successful or not, but these investors are not going to have any risk on it because they are getting tax credits.

Mr. VANDERGRIFF. So, to perhaps restate what you have said, you do not really believe that the tax credit is all that important in this case. It is not that it is going to have that significant an impact upon the Federal Treasury because there will not be that many taxes to be paid.

Mr. PRATT. It is hard to say. I mean, I think that that is a less efficient use of Treasury credits, so speaking. In other words, if I am going to reduce Treasury revenue, and every time I talk with the Treasury Department, you know, their first interest is I have got to keep my revenues up and my first interest is I have got to try to stimulate people to do something.

I hate to see revenues taken away from them for something that I do not think is being particularly efficient in the process. They seem to scream at me about losing any revenues every time I talk with them.

I do not think it will hurt the process dramatically—do not get me wrong there. I just do not believe it is going to help it dramatically, and I think, if I have got to argue with the Treasury Department about their revenues, there are areas I would much rather argue with them about than that one.

Mr. VANDERGRIFF. All right. Thank you very much, sir.

We have been through, in the not-so-distant past, of very restricted money being available for capital risk. Now, of course, there seems to be a bit more generous supply.

Has there been some dramatic upturn in the small business sector that you have already noticed as a result of financial conditions?

Mr. PRATT. Oh, yes. If you will look at my numbers—something that I did not get into, but it is a little bit shocking and people look at this. On exhibit 1 on the back of my statement, you will see that historically venture capitalists invest into the industry each year substantially more than the amount of new committed capital.

They do that because, I mentioned earlier, they were working off a base that was $2½ billion when I started these numbers and is $7.6 billion today. Actually, it is even worse than that because if you look at it; in 1982, for example, we said $1.7 billion came into the industry, only about 40, maybe 50 percent of that actually

came in in cash. The rest was committed capital to be paid in over 2 or 3 years, but they still invested $1.8 billion.

Whenever a venture capitalist gets a fat head, I remind him that there are probably 1,000 entrepreneurs for every one of them. I believe that this Nation has no shortage whatsoever of qualified entrepreneurs and people who really want to go out and do their own thing.

As I told the Dutch when I was over there not too long ago, they said, well, what are we going to do about our youth today that are against everything? I said, well, just remember ours. It was not too long ago that our youth were against everything. Today, they are not against everything. They are for themselves. They want to become entrepreneurs and go out and build something on their own.

I believe we have no shortage whatsoever of the human resources on the entrepreneurial side and, as you can see, this is developing dramatically. Opportunitywise, $1.8 billion is an enormous amount of money for venture capital industry disbursements that only in 1975 was only putting out $250 million.

In the last superheated time, in 1969, they were only putting out $450 million. So as you can see, this is going into the economy; it is not just sitting anywhere just stagnating. It is going into the economy, and hopefully becoming productive.

Mr. VANDERGRIFF. All right. That is encouraging. Thank you very much, Mr. Pratt.

Mr. PRATT. Thank you, sir.

Mr. VANDERGRIFF. Thank you, Mr. Chairman.

Mr. NOWAK. Thank you.

Mr. Britt from North Carolina.

Mr. BRITT. Thank you very much, Mr. Chairman.

You mentioned several times the long-term investment disciplines that are needed to effectively fuse venture capital. I encourage that. Obviously your sliding-scale incentive is one way. What are some other ways that encourage looking to the long haul rather than the short term?

Mr. PRATT. Well, again, I feel that the carrot approach is the way of using these incentives. The other thing that encourages this whole process, both the entrepreneurs and the venture capitalists, is what we call the role model effect. When you start having successful businesses that have been built over a period of time—remember what I said about the entrepreneurial ego, it is generally very high.

If they see some other guy has been successful, they generally say, I am just as smart as that turkey, I can go do it myself. We watched entire companies like Intel, where division managers will start going out because they see the other guy was successful. It takes time. These things do not happen overnight.

We have all been spoiled in the past 3 or 4 years because many companies have come through the process very, very quickly. You will hear some testimony from Jim Swartz later who was involved with Federal Express. That took a lot of time and a lot of money and an incredible amount of patience in order to build that company.

But even the Apple computers did not happen overnight. That came through very quickly. So the role model, I think, is extremely important. One of my funniest interviews with the German press was that they told me that they would not provide the role models in their media. I said, why not? They said, well, Mr. Pratt, did you not say that there are more people that fail than succeed in the entrepreneurial process? I said, yes. He said, then we would be encouraging failure rather than success if we did it. I said, well, those are the mindsets that you have got to change if you want Germany to go anywhere at this point.

So it is the role models; it is the carrots. It took almost 17 years for anybody to know that the venture capital industry was a viable industry. Most of the industry development really came since 1968.

In 1976, the investors in many of the venture capital funds said this was such a disaster. When they looked at what was going on, they saw nothing but failures in these portfolios and very few successes. We have a saying in the industry that lemons ripen early and pearls take a long time to cultivate.

The State of Ohio retirement board actually got the law changed at their State legislature saying they could never make such a stupid investment again because it looks so bad. In 1979 and 1980, when those seven funds that they had invested in finally matured, their average compound annual return was in excess of 18 percent per annum. Now they were using index funds to try to match the 4 percent, a little under 4 percent per annum, of the Standard & Poor's 500.

Guess what? They have changed the law back again so they can invest in venture capital firms. It requires patience. It is a role model; it is people seeing it, getting the word out that long term—that wealth and new businesses are generally created over the long term and not the short.

Mr. BRITT. Where are the additional moneys, this rather dramatic increase, coming from? What is the participation of, say, insurance companies? You mentioned pension plans. I did not realize they could actually participate in those kinds of things. Where is the venture capital coming from, and where should it be? Should larger businesses be forming subsidiaries, infusing some money into some risk capital ventures?

Mr. PRATT. Well, you have got to be awfully careful about that. Basically, because of the very unique disciplines of this long-term business development, it is very specialized vehicles that are doing it, these professionally managed venture capital companies. We have generally found that major corporations do not have the long-term view.

My partner's doctoral thesis was on corporate new ventures groups and found that the average life of corporate new ventures groups in 1976 was 4½ years, just long enough to see all the bad investment and never long enough to see any of the good ones. Then they would kill the program.

The major single source for capital to these professional venture capital managers is pension funds. They have long-term liabilities that are stated and they have long-term assets so they can afford to take the long-term view.

They are today the leading single supplier of capital to these professionally managed funds. Individuals and families are the next largest, and then we have insurance companies, major corporations through the corporate development. The fastest-growing segment today is foreign.

Mr. BRITT. It is what?

Mr. PRATT. Foreign investors. Foreign investors who see opportunities in this country and, interestingly enough, have a sort of intriguing incentive. They are not taxed on their capital gains over here, so they are throwing money in here, having a ball and making a fair piece of change doing it.

The specialized funds, I do not know whether you have ever read Peter Drucker's book called "The Unseen Revolution," published in 1976. It is where we first started hearing that by 1986, pension funds would own more than 50 percent of all of the equity in our capital market structures.

What he brought out here in that book was that you needed specialized vehicles, specialized intermediaries to invest in these small businesses that were high risk, needed continuing involvement, that the fiduciary can never really provide.

I do not like seeing pension funds, insurance companies, and these institutional investors investing directly in these small businesses. They almost always will come to the worst of the three decisions you can make when you have a portfolio company in trouble. If you have a portfolio company in trouble, and you give them more money as a pension fund, you are liable to be sued. If you do not give them more money, you are liable to be sued for having made the investment in the first place. So the answer you always come to is maybe. They make no decision and that is the one thing that will destroy any small business: Indecision amongst its financial supporters.

Mr. BRITT. You are suggesting that what you need is the professional venture capital group.

Mr. PRATT. You need dedicated people who are——

Mr. BRITT. In between the pension plan funding and the entrepreneur?

Mr. PRATT. That is correct. Even between the major corporation, which is not using pension fund money, but may be using corporate development moneys, because again, their managers are judged on a 3-year cycle. If you are in one job in a large corporation more than 3 years, you are off the fast track. Three years in this business is just long enough, generally, to see the turkeys, and not long enough to see any of the pearls.

Mr. BRITT. Thank you, Mr. Chairman.

Mr. NOWAK. Thank you, Mr. Britt.

We talked about incentives and I guess what it really gets down to is that we are in competition with everybody else out there in all the other ways of investing and making money in the small business area. I guess we could even look at such things as the IRA's, which everybody has found is a convenient vehicle to invest $2,000 or $4,000, depending on your marital status.

But when we talk about the investment tax credit, I guess we are looking at that as another small part of the incentive, to bring money into this venture capital area. If you can get a writeoff of

anywhere from 1-to-1 to 4-to-1, if it is mining, the oil industry, the gas industry, or an IRA, it is really a 1 to 1 writeoff, which is not a permanent tax avoidance, of course, because it just delays the inevitable. It is being used three or four times as much as projected by the investor or the saver in this country.

I guess what we are trying to do here is find the best and widest possible vehicles to accomplish what I believe I hear you saying, that is, to get an attractive vehicle through the Tax Code to move money into the most productive sector of our economy.

Mr. PRATT. Yes, sir.

Mr. NOWAK. I think your testimony will give us a great deal of support when we consider all of the incentives that I, along with the others here, cosponsored in our bill.

So I want to thank you for your testimony and again, we will keep the record open. If we do have further questioning and questions on narrow points, we will be back in touch with you.

Mr. PRATT. Fine. Thank you very much, Mr. Chairman.

Mr. NOWAK. Thank you very much for attending.

We would like to have as our next witnesses, since they are somewhat interrelated, a small panel with the National Association of Small Business Investment Company's with Walter Stults as the president of NASBIC, along with people from Rand Capital Corp., and George Campos, who is a president of a photography center in Buffalo.

If you will all proceed to the front, I will make a very brief introduction and then you can take turns at direct testimony and perhaps then we will have the opportunity to ask you some questions.

Mr. Walter Stults, of course, is the president of NASBIC, and he will be accompanied by Peter McNeish, who is the executive vice president. Walter has been a long active member with NASBIC for over 20 years and has a distinguished career in the venture capital industry.

Peter is no stranger to the venture capital business, having served several years before joining NASBIC as the Deputy Associate Administrator for Investment at the Small Business Administration.

From Rand Capital Corp., we have Keith B. Wiley, who is the vice president and financial analyst of Rand Capital Corp. He received his BA and MBA degrees and before his employment with Rand Capital was a loan officer for the Bank of New York.

Our last witness is Mr. George Campos, who is someone who has accomplished a great deal in a successful venture already. He was selected by the U.S. Small Business Administration as their 1982 businessman of the year.

Mr. Campos came to America as a youth from Cuba. He subsequently moved to Buffalo and put himself through the University of Buffalo, where he received a BA degree in economics working as a commercial photographer. He is certainly an excellent example of an individual who has shown foresight and tenaciousness to translate his dream into a very profitable business venture.

So we will start with Mr. Stults and then move to the others.

PANEL CONSISTING OF WALTER B. STULTS; KEITH B. WILEY; AND GEORGE CAMPOS

TESTIMONY OF WALTER B. STULTS, PRESIDENT, NATIONAL ASSOCIATION OF SMALL BUSINESS INVESTMENT COMPANIES, ACCOMPANIED BY PETER McNEISH, EXECUTIVE VICE PRESIDENT, NASBIC

Mr. STULTS. Thank you, Mr. Chairman, Mr. Britt.

This is certainly an important hearing and Peter McNeish and I are delighted to be here. The strong spirit of entrepreneurship within our people represents one of the greatest strengths of the American economy.

Our willingness to leave secure positions and risk everything to start our own companies is a major national resource and a trait which foreign observers note with both puzzlement and admiration.

The policies and actions of the Federal Government impact heavily on the flow of these entrepreneurial juices so it is most appropriate that your subcommittee explore the subject on a continuing basis.

Mr. Chairman, NASBIC commends you, Mr. Britt, Mr. Williams and your colleagues for introducing the Capital Formation Tax Act of 1983. We believe the enactment of the provisions of H.R. 2543 will give further impetus to the explosive growth in venture capital resources and allow our industry to provide startup financing for added thousands of new businesses.

In addition, your legislation will surely encourage thousands of ambitious and talented individuals to strike out on their own and start new enterprises.

Section 2 of your bill reducing corporate taxes for earnings under $200,000 is most important because it increases the ability of smaller firms to grow through the reinvestment or plowback of their earnings.

Section 3 is critically important because it recognizes the true nature of capital formation and the investment process. By increasing the deductability of gains on small business investments held for more than 5 years, the Internal Revenue Code would provide an important incentive for such investments.

I would point out here that this section does not reduce the risk inherent in buying stocks issued by small businesses, but would increase the rewards available when such investments are successful. Our association, however, suggests that the sponsors of the bill expand section 3 to make certain that investments in SBIC's and MESBIC's also qualify as small business investments under this provision. I am afraid that the present definition would rule out most licensees as qualified investments.

Section 4 would reduce maximum corporate capital gain tax rate from the present 28 to 20 percent. This is good, but the preceding section, which covers only individual taxpayers, says that the capital gains tax rate for individuals holding small business investments more than 5 years would drop to 10 percent, thus, SBIC's and venture capital companies which are operating as limited partnership would pay a maximum rate of 10 percent, while corporate SBIC's and corporate venture capital companies cashing in on exactly the same successful investment would pay 20 percent, or

twice as much. I hope your subcommittee will review these provisions and bring them into balance.

Cash method accounting, I am certain, would be most helpful to some small and young firms.

Section 6 gives an investment tax credit to investors for investing in qualified small businesses and we are pleased that this section specifically makes SBIC's and public business development companies operating under the 1980 act eligible investments.

The final provision of your bill, section 7, is one which NASBIC and the entire small business community have been advancing for many years: Capital gains rollover.

I summarize, then, Mr. Chairman, by saying that this legislation marks a milestone in the recognition of the special needs of new and growing businesses. Taken together, its six provisions would channel additional billions of dollars into startups which would provide the employment, innovative technologies and the export generators which the Nation requires for its economic vitality.

With your indulgence, Mr. Chairman, I would like to mention very briefly two other tax matters at this point. First is the passthrough tax treatment of 1980 act companies. Under current tax laws, publicly owned SBIC's and venture capital companies, which are regulated by SEC under the 1940 act, are permitted to elect passthrough tax treatment under subchapter M, or section 851, of the Code.

These companies are not taxed at the corporate level so long as they pass through at least 90 percent of their ordinary income. In 1980, Congress passed the Small Business Investment Incentive Act, which established a new form of SEC oversight for publicly owned SBIC's and BDC's. This recognized the unique types of investments and the special manner of operations of such firms.

Unfortunately, Congress did not amend the Code at the same time, so we now have a catch-22 situation where public SBIC's may elect a rational regulatory framework, but if they do, they lose an important tax option. Legislation has been introduced in both the House and the Senate to remedy this ridiculous situation.

Congressmen Frank Guarini, Bill Frenzel, and Pete Stark cosponsored H.R. 2686 on April 21. This measure is revenue-neutral. It has the approval of the Treasury Department. NASBIC respectfully urges your subcommittee to throw its weight behind this legislation and work for its passage.

Second, I repeat what Stan Pratt mentioned on incentive stock options and which Jim Swartz will speak further to you. It is obvious that startups cannot afford to pay talented professionals as much as well-established corporations can. Also, it is apparent that no startup, indeed, no small firm, can survive and succeed unless it is able to attract and hold talented managers.

The most effective method for these small businesses to obtain essential highly motivated professionals is through the issuance of incentive tax options. ERTA, in 1981, recognized these facts, but unfortunately, TEFRA of 1982 took away the bulk of the benefits. Incentive stock options are now much less effective in attracting the sorts of employees required by growth businesses.

NASBIC urges your subcommittee to work with Ways and Means to remove the barriers imposed by the 1982 tax law.

Finally, NASBIC is seriously considering the possibility of designing a new format for our industry. Unfortunately, I cannot give you any extensive report on our discussions because they are preliminary at this point. Basically, we wonder whether it would be possible to make the program even more of a private sector undertaking through the establishment of an industry-backed financial institution. We hope that a private capital bank would give us greater continuity, greater certainty in funding than can a Federal agency.

We also hope that a private funding mechanism will permit more flexibility in structuring leverage for SBIC's. I am making these general comments on our project because the idea of a private capital bank is very relevant to the subject of this hearing.

We would hope that such a bank could devise terms on its leverage which would permit SBIC's to disburse more of their dollars to purchase stock from startup and early stage businesses.

Under present design of the program, SBIC's pay the full cost of money to the Treasury, so it is extremely difficult for them to invest in startups and still cover their debt-service costs. It might be possible for the capital bank to provide below-cost leverage by taking an equity kicker in the SBIC, just as one example.

Mr. Chairman, thank you again for permitting our association to present its views on means for channeling more venture capital to startup businesses.

[Mr. Stults' prepared statement follows:]

PREPARED STATEMENT OF WALTER B. STULTS, PRESIDENT, NATIONAL ASSOCIATION OF SMALL BUSINESS INVESTMENT COMPANIES

Mr. Chairman and members of the subcommittee, the subject of this hearing is indeed a most important one and I appreciate the opportunity to appear before you today. I am Walter Stults, President of the National Association of Small Business Investment Companies. With me is Peter McNeish, NASBIC's Executive Vice President.

INTRODUCTION

The strong spirit of entrepreneurship within our people represents one of the greatest strengths of the American economy. Our willingness to leave secure positions and risk everything to start our own companies is a major national resource—and a trait which foreign observers note with both puzzlement and admiration. The policies and actions of the Federal Government impact heavily on the flow of these entrepreneurial juices, so it is most appropriate that your Subcommittee explore the subject on a continuing basis.

The topic given this hearing, "Startups and Venture Capital", defines the types of new businesses I shall address in this statement. As you know, the overwhelming majority of all businesses in the United States consist of the self-employed or firms with only one employee. By and large, these enterprises require little or no capital to start operations; most of them will remain one or two person operations with no need or desire for outside venture capital.

After eliminating the millions of startups of "life-style" businesses from our discussion today, we come to the very real needs of the hundreds of thousands of would-be entrepreneurs seeking to organize and finance companies with a potential for high growth rates. These are the new firms that can generate significant employment opportunities, bring new goods and services to market, and increase productivity in American industry. These are the firms which require outside financing for their birth and early growth years. These are the firms which SBICs and other venture capitalists assist.

THE SMALL BUSINESS CAPITAL FORMATION TAX ACT

Mr. Chairman, NASBIC commends you and your colleagues for introducing the Small Business Capital Formation Tax Act of 1983. We believe that the enactment of the provisions of H.R. 2543 will give further impetus to the explosive growth in venture capital resources and allow our industry to provide startup financing for added thousands of new businesses. In addition, your legislation will surely encourage thousands of ambitious and talented individuals to strike out on their own and start new enterprises. In sum, our Association strongly supports the passage of H.R. 2543, although we have several amendments to suggest.

By reducing corporate taxes on earnings below $200,000, the legislation increases the ability of smaller firms to grow through reinvestment of earnings. Section 2 of your bill is a most important provision, because the plow-back of retained earnings is the cheapest and most efficient way for businesses to grow. We maintain that this concept also represents a good investment for Uncle Sam, because the Government is merely deferring tax receipts. In most cases, Federal tax receipts in later years will more than offset the relatively small amount of revenue foregone under this proposal.

Section 3 of H.R. 2543 is critically important, because it recognizes the true nature of the capital formation and investment process. By increasing the deductibility of gains on small business investments held for more than 5 years from the present 60 percent to 80 percent, the Internal Revenue Code would provide an incentive for such investments. I would point out here that this section does not reduce the risks inherent in buying stocks issued by small businesses, but it would increase the rewards available when such investments are successful. NASBIC suggests that the sponsors of H.R. 2543 expand Section 3 to make certain that investments in SBICs and MESBICs also qualify as "small business investments" under this provision. I am afraid that the present definition "(within the meaning of Section 1244(c)(3))" would rule out most licensees as a qualified investment.

Section 4 of the Small Business Capital Formation Tax Act would reduce the maximum corporate capital gain tax rate from the present 28 percent level to 20 percent. This action would bring the capital gains levy imposed on individuals and corporations into balance. But—Section 3 of your bill covers only individual taxpayers, so corporate investors (and that includes almost all SBICs and MESBICs) would pay capital gains taxes twice as high as individuals on gains arising from investments in small businesses held for 5 years or longer. Specifically, the owners of SBICs and venture capital companies operating as limited partnerships would pay a maximum rate of 10 percent on gains from such qualified investments, while corporate SBICs and venture capital companies cashing in on exactly the same successful investment would pay 20 percent—or twice as much. NASBIC urges the Subcommittee to review these provisions and bring them into balance.

Section 5 of your bill expands the ability of certain small businesses to utilize the cash method of accounting. I am certain that this amendment to the Code will be most helpful to many small firms and to young companies just starting operations.

Section 6 of H.R. 2543 would give a tax credit to taxpayers in an amount equal to 10 percent of their investments in qualified small business corporations. This provision should serve as an incentive for such equity investments. Incidentally, we are pleased that this section specifically makes SBICs and business development companies operating under the Small Business Investment Incentive Act of 1980 eligible investments.

The final provision of your bill, Section 7, is one which NASBIC and the entire small business community have been advancing for many years—the capital gains rollover. This is an extremely important concept and one which should dramatically increase the amount of equity capital available to startups and growing small businesses. Here again, losses to the Federal Treasury should be minimal, because studies we have undertaken prove that small businesses receiving venture capital grow so rapidly that their own tax liabilities will soon more than offset the deferred capital gains tax treatment given to those who invest in such firms.

I summarize, then, Mr. Chairman, by saying that this legislation marks a milestone in the recognition of the special needs of new and growing businesses. Taken together, its six provisions would channel additional billions of dollars into startups which will provide the employment, the innovative technologies, and the export generators which the Nation requires for its economic vitality.

OTHER TAX RECOMMENDATIONS

Mr. Chairman, with your indulgence, I would like to mention two other tax matters at this point in my testimony:

1. *Pass-through tax treatment for 1980 Act companies.*—Under the current tax law, publicly-owned SBICs and venture capital companies which are regulated by the Securities and Exchange Commission under the Investment Company Act of 1940 are permitted to elect pass-through tax treatment under Subchapter M (Section 851) of the Internal Revenue Code. Such companies are not taxed at the corporate level so long as they pass through at least 90 percent of their ordinary income to their shareholders.

In 1980, Congress passed the Small Business Investment Incentive Act which established a new form of SEC oversight for publicly-owned SBICs and business development companies which recognized the unique types of investments and the special manner of operation of such firms. Unfortunately, Congress did not amend the Internal Revenue Code at the same time, so we now have a Catch-22 situation where public SBICs and business development companies may elect a rational regulatory framework, but, if they do, they lose an important tax option.

Legislation has been introduced in both the House and the Senate to remedy this ridiculous situation. Congressmen Frank Guarini, Bill Frenzel, and Pete Stark cosponsored H.R. 2686 on April 21. The measure is revenue-neutral and has the approval of the Treasury Department. NASBIC respectfully urges this Subcommittee to throw its weight behind H.R. 2686 and work for its passage.

2. *Incentive stock options.*—It's obvious that startups cannot afford to pay talented professionals as much as well-established corporations can. It's also apparent that no startup, indeed no small firm, can survive and succeed unless it is able to attract and hold talented managers. The most effective method for a startup or young business to obtain these essential highly-motivated professionals is through the issuance of incentive stock options which give the employee the right to acquire some of the equity of the business at some time in the future.

The Economic Recovery Tax Act of 1981 recognized these facts and permitted the issuance and exercise of incentive stock options without adverse tax ramifications. Small business and the venture capital industry hailed this positive step forward. But the 1982 Tax Act took away the bulk of the benefits. Incentive stock options are no longer effective in attracting the sorts of employees required by growth businesses.

NASBIC urges that your Subcommittee work to remove the barriers imposed by the 1982 tax law and restore the viability of incentive stock options for startups and growing small businesses.

A CAPITAL BANK FOR SBIC's?

NASBIC is seriously exploring the possibility of designing a new format for our industry. Unfortunately, I cannot give you any extensive report on our discussions, because they are so preliminary at this point. Basically, we wonder whether it would be possible to make the program even more of a private sector undertaking through the establishment of an industry-backed financial institution. We hope that such a private bank will give us greater certainty and continuity in funding than can a Federal agency. We also hope that a private funding mechanism will permit more flexibility in structuring leverage for SBIC's.

I am making these general comments on our project, because the idea of a private capital bank is relevant to the subject of this hearing. We would hope that such a bank could devise terms on its leverage which would permit SBICs to disburse more of their dollars to purchase stock from startup and early-stage businesses. Under the present design of the program, SBICs pay the full cost of money to the Treasury, so it's extremely difficult for an SBIC to invest in startups and cover its debt-service costs. It might be possible for the capital bank to provide below-cost leverage by taking an equity kicker in the SBIC, for example.

Let me stress again that we are still in a very early stage on this idea. You can be certain that we will keep your Subcommittee informed of our progress and will ask for your support when we can give you more details.

CONCLUSION

Again, Mr. Chairman, thank you for permitting our Association to present its views on means for channeling more venture capital to startup businesses. We believe that the Small Business Capital Formation Tax Act of 1983 is an extremely important and significant step forward and NASBIC will do everything in its power to support you in your efforts to have these amendments to the Internal Revenue Code passed by the Congress and signed by the President.

Mr. NOWAK. Thank you very much. We will hear now from Keith B. Wiley from Rand Capital Corp.

PANEL CONSISTING OF KEITH B. WILEY; AND GEORGE CAMPOS

TESTIMONY OF KEITH B. WILEY, VICE PRESIDENT, RAND CAPITAL CORP.

Mr. WILEY. Thank you, Mr. Chairman.

My name is Keith B. Wiley and I am vice president of Rand Capital Corp., a publicly held, closed-end public investment company, with a wholly owned subsidiary.

On March 31, 1983, our assets totaled $9 million. We were formed in 1969 with initial capital of $1.75 million.

Our very first investment was a $250,000 loan to a startup cable television system which now serves virtually all the contiguous suburbs of Buffalo. We purchased an 11-percent interest in this company for $13,500.

In 1981, we sold that stock for $6 million and had our loan paid. This was our first big winner, and it is interesting to note that it took 12 years for it to happen.

Regarding the cable television system, it did not just happen easily. Along the way, we were responsible for complete change of management and three major financial reorganizations. When we got involved with this company, there were fewer than 15 employees. Today, International Cable employs 150 people in an area with 13.8 percent unemployment.

Another example of SBA and SBIC involvement with our community is Astronics Corp. with sales last year of $11 million and a profit of $650,000. The company was started by a man who worked as a technician at Cornell Laboratory in suburban Buffalo. Rand Capital became involved in 1970 after he had already obtained an SBA-guaranteed bank loan.

Rand hired a business manager and an engineer who took his electroluminescent technology, gave it a business overlay, and brought order out of chaos.

While they were doing this, we made the payrolls, loaned money as needed for working capital, and arranged for a small underwriting in 1971 which paid off all the debts.

Since that time, the company has experienced an annual growth in sales and profits of 20 percent and currently employs 200 people. It may be of interest that in 1977, we gave each owner of two shares of Rand Capital stock, one share of Astronics stock as a dividend. Last year, we sold the balance of Astronics stock at a profit.

These are two examples of ideas which became successful businesses. Rand Capital invested in both these companies at the startup level, the earliest level of entry with the highest risk.

Briefly, I would like to discuss the standards we use when we evaluate prospective investments. I think No. 1 is the key, management. We evaluate: Is there good technical management; is there good business management; is management capable to taking technology and creating a good business with high growth; is the entrepreneur honest, intelligent, knowledgeable in his field, flexible, a motivator of people, self analytical, desirous to succeed, able to act

and react, a risktaker, able to understand the concept of being an entrepreneur, not just a worker in the company?

We evaluate the industry or service: Is it a high-growth area; will it grow rapidly; will it grow profitably; can we understand the industry?

The third criteria is financing. Is it adequate to achieve that high growth; is there sufficient equity in the company? We look and consider the following points: Protection of our investment, liquidity and control, pricing and the factors in pricing; what percentage the entrepreneur is willing to give us for participating.

The financial requirements. We look at cash flow over a 12- to 18-month period. We look at financing to sustain growth from an 18- to 48-month period. We look at the possibility of a public offering or corporate sale in 4 to 5 years. Another point is the ability to attract other investors.

The fourth point is market. Is there a niche for this product or service? What are the market trends? What are the company's marketing capabilities?

Fifth point, competition. Is this a proprietary product or service? Who else is making the product or performing the service? Will our product be better than the competition or as good as the competition? Is the price of the product or service right for the market?

During the course of the year, we see approximately 300 to 400 investment proposals. This past year, Rand Capital made five investments, three companies in the Long Island area: Distributed Control Systems, a company which developed computer control energy management systems; Primages, Inc., which makes high-speed computer printers; Trac Line Software Co., which makes a series of integrated software packages for microcomputers.

Kings Down Communications of Atlanta, Ga., publishes financial newsletters.

Our fifth investment was an additional investment in one of our portfolio companies. Mr. George Campos, President of Campos Photography Center, is sitting beside me; he will personally describe this investment to you and the positive effects of the Small Business Capital Formation Tax Act on venture capital companies, SBIC's and small business, particularly at the startup level.

As with all venture capital companies and SBIC's, the investments we make are related to the funds we have available. Only after our sale of International Cable and Astronics were we able to make investments in the $300,000 to $500,000 range, rather than $100,000. Also, only then were we able to make equity investments rather than straight debt.

Therefore, we strongly endorse your bill which would benefit not only the venture capital companies and the SBIC's, but also the small business community which would have more funds available to them from these investment companies.

Thank you, Mr. Chairman.

Mr. NOWAK. Thank you very much, Mr. Wiley, and now we will hear from our 1982 Small Businessman of the Year, Mr. Campos.

TESTIMONY OF GEORGE CAMPOS, PRESIDENT, CAMPOS PHOTOGRAPHY CENTER, INC.

Mr. CAMPOS. I want to thank you, Congressman Nowak, for the opportunity to testify today in support of the Small Business Capital Formation Act of 1983. It is an especially proud moment for me, one of your constituents, to testify in the House of Representatives on behalf of the small businessman.

I am George Campos. I often feel, when I am asked to make a public statement, like there are a lot of very important people talking all day long very seriously about monkeys; and at the end of the day, all the people want to see what a real monkey looks like. So here I am. [Laughter.]

There is a comment Congressman Nowak made about my own personal business being very profitable. I want to correct that. It is not very profitable yet, but hopefully it will be in the future.

I have a short statement that I want to make and then I will answer any questions you may have.

In the short span of 20 years, I have come from being a 9-year-old runner for the anti-Castro underground in Cuba to the president of a small business in the United States. It is an exhilarating feeling.

During my elementary school years, I became an amateur photographer using a Brownie camera, and I won several photography awards.

My interest continued and more skills developed through high school and college. I worked as a commercial photographer with a studio in my parents' basement to put myself through the University of Buffalo where I graduated in 1973 with a BA in economics.

About 10 years ago, I got this idea as I watched people with thousands of dollars worth of cameras take pictures. They would send the films out to be developed, and they would be very unhappy with the results.

Equipping a color darkroom is very expensive, and the state of the art is changing so fast that equipment quickly becomes antiquated. But the most serious problem with a home darkroom is that the chemicals are very expensive, and they only hold their strength a very short time. So if you do not use the darkroom every day, you do not get your money's worth.

My business idea was to open up color printing to everyone, because renting a darkroom makes much more sense. We have the latest equipment; we mix all the chemicals; we supply the paper, and we keep the place clean.

We are not geared toward any specialized crowd. We offer equipment and services that would cost $25,000 to $30,000 to set up in someone's basement darkroom. But yet our clients only pay $5 per hour, plus 20 cents for each print, to put through our Simplex color processor.

They may exercise artistic or experimental manipulations during the enlargement process, but they enjoy completely stable processing.

A new customer can take an introductory seminar for $35 or can learn with a brief, free orientation by trial and error. Either way, we have people printing within 10 minutes.

This is my idea. Now I would like to describe to you how that idea became an actual business reality. In 1979, I met Donald Ross, the president of the Rand Capital Corp. Mr. Ross listened to my idea for a business and liked it.

After weeks of due diligence, which included feasibility studies, market analysis, and financial forecasts, Rand Capital Corp. introduced me to Chemical Bank in Buffalo, which granted me a $100,000 loan backed by the SBA.

Rand Capital Corp. agreed to invest a total of $200,000; $20,000 for the first store, the balance for additional stores. I never intended my business to be a one-store business. In addition, Rand insisted on an equity investment of $15,000 from my wife and me.

The Center opened in our area on March 19, 1979. During 1980, the following events occurred:

Interest rates went to 22 percent; all the projections that I had made were based on 8-percent interest rates and they had never gone, since the Civil War, over 12 percent.

The price of silver increased 50 percent.

The price of supplies increased 50 percent.

Customers stopped coming in; sales dropped dramatically.

A direct-mail advertising campaign we made with the Eastman Kodak Co. backfired.

My business bled for a 6-month period. During that time, I worked at developing better controls in the business operation and became a hands-on manager. I also worked hard to combine my optimism with my pragmatism. I kept planning my second store, due to open 3 years after the first store, according to the initial financial projections. All this while keeping the first store alive.

Although there are instamatic cameras which can produce beautiful pictures, there was nothing instamatic about the survival and the success of my first business.

In February 1983, our second store opened as scheduled in Rochester, N.Y.

My business is not an Eastman Kodak, but it is a vehicle by which companies like Kodak can use to introduce their new high-technology products to the marketplace and to successfully maintain the supremacy of American technology.

There is something Mr. Stanley Pratt said on which I want to comment. He kept saying how much difficulty there is to train autoworkers and steelworkers to start understanding computer technology. Many times it happens very simply by just seating someone in front of a personal computer and making him try it.

In my business, I am not doing it with computers; I am not doing it with Silicon Valley technology, but we are doing it with photographic technology, which up until now, we have maintained a strong leadership position. We essentially do that. We take very, very high-technology photographic state-of-the-art equipment and we make it available to the individual. In effect, in Buffalo, a lot of our customer base are the unemployed steelworkers and the unemployed autoworkers. They come to learn a new field, and they come to learn it right in my shop.

OK, we will continue.

Mr. NOWAK. Mr. Campos, if you will just excuse us, we have a vote on the House floor and I think this would be a good time to

break. We will come back in approximately 15 minutes to hear the rest of your testimony and then hopefully have the opportunity to ask some questions. So I just want to advise you because the members will have to leave for that vote.

We will stand in recess until we get back in about 15 minutes. Thank you.

Mr. CAMPOS. Thank you.

[Recess.]

Mr. NOWAK. The subcommittee will come to order. First of all, let me apologize for the delay, but we had an unexpected occurrence on the House floor. I had to have a little colloquy with the chairman of the committee and he was nice enough to put us on first, so I got that through. Now we can concentrate on our business.

When we left, Mr. Campos was describing his success and I will let Mr. Campos continue from where he left off.

George.

Mr. CAMPOS. Thank you, Chairman Nowak.

There are a few comments that I have left to make and essentially, when we cut it off, I was comparing my company, saying that it is not an Eastman Kodak. It is a lot smaller company, but it is a vehicle by which companies like Eastman Kodak can use it to introduce their new high-technology products to the marketplace and to successfully maintain the supremacy of American technology.

In the same way that Apple computer took the unrelated computer technology and created a concept that brought the power of the computer to the individual, we have done the same thing with state-of-the-art photographic equipment.

May I add that just about every major piece of equipment in our stores was designed and manufactured in the United States by American workers. This concept, my business, has developed into two stores. Now we are getting inquiries for additional stores across the country. I am at the point where I need more than my own resources.

There are businesses that are trying to satisfy America's present and future needs, and because we are a group of people who are trying to improve our lives, the satisfaction of those needs holds the key to an explosion of real jobs.

As we have heard this morning, there is a great amount of money being raised by venture capital companies, most of it going into new business.

Keith Wiley mentioned that Rand Capital Corp. sees approximately 300 to 400 investment proposals each year. Certainly the more money available for venture capital, the more money available to invest in those new companies. That is a good idea.

However, as president of a small business, I would like to make another proposal. We hear and read so much these days about the comparison between Japanese companies and the American companies. In fact, many American businessmen and business school professors have visited Japan to study these companies. There have been some surprises in their research.

American technology is far advanced and more creative than the Japanese technology, but we are so short-term oriented. We need to

give our businesses more time to reach the high-growth potential of its technology.

The Japanese are using our innovative technologies and they are forming companies with long-term plans for growth, 10, 20, 30 years. Many times in the American small business, you do not have the luxury of thinking past next month.

My proposal is not only to start new businesses with high growth potential, but also to put additional money into current, viable businesses when needed.

The proposed Small Business Capital Formation Tax Act, I think, would be an exceptional opportunity and vehicle for both venture capital companies and our Government. The venture capital companies and SBIC's would have money to put into new investments and also into the current portfolio companies to help them grow.

Although short term, the Government would be receiving less money through taxes from a venture capital company, in the long term, they would receive more tax money from more companies which will be able to start, survive and grow.

I congratulate you, Mr. Nowak, on this proposed tax bill, H.R. 2543. I heartily endorse it and I thank you for the opportunity to address your subcommittee on behalf of all businessmen, not only in Buffalo, but also in this country.

Thank you very much.

[Mr. Wiley's and Mr. Campos' joint prepared statement with attachments follows:]

JOINT PREPARED STATEMENT OF KEITH B. WILEY AND GEORGE CAMPOS, RAND CAPITAL CORPORATION

Mr. Chairman and members of the committee, thank you, Congressman Nowak, for the opportunity to testify today in support of "The Small Business Capital Formation Act of 1983" (H.R. 2543).

I am Keith B. Wiley, Vice President of Rand Capital Corporation of Buffalo, New York, a publicly held, closed-end venture capital company with an SBIC subsidiary. On March 31, 1983, our assets totalled $9,027,562. Rand Capital Corporation is a member of the National Association of Small Business Investment Companies, a trade association which represents the overwhelming majority of all small business investment companies (SBIC's) and Minority Enterprise Investment Companies (MESBIC's).

As you know, SBIC's are privately organized, privately capitalized and privately managed venture capital firms which provide equity capital, long-term loans and management assistance to new and growing small business concerns. SBICs are licensed under the Small Business Investment Act of 1958 and regulated by the Small Business Administration.

I appear before you today to strongly support H.R. 2543, and as a Vice President of a venture capital company and an SBIC which has contributed to business and job development in Buffalo, New York, and the Northeastern United States, I'd like to explain my support in proper context.

We feel that issues like this are very important and add a great deal to small business formation and job creation in the economy of the United States in general and Western New York in particular.

It is important to Western New York because we need to instill a strong end-product economy in our community. We're talking a little about some of the provisions that are in this bill.

These provisions will be particularly helpful to many of our future investments. We can lend and invest more money to more companies.

We are making many of our investments in the Northeast, particularly in New York State. We have made one investment in the Western New York area which is an example of a good SBIC investment that is helpful to Buffalo, Western New York and the Rochester economy: Campos Photography Center, Inc.

Mr. George Campos, President, is sitting next to me and following my statement, he will personally tell you how he started his business and survived.

Rand Capital Corporation was formed in 1969 with initial capital of $1¾ million. In 1971 we had an initial public offering for a similar amount. In 1976 we took $500,000 of uninvested funds and formed our wholly-owned SBIC subsidiary. In 1981 we sold 200,000 shares of our stock and raised approximately $2 million more.

Our very first investment, in 1969, was a $250,000 loan to a start-up CATV system which now services virtually all the contiguous suburbs of Buffalo. We purchased an 11-percent interest in this company for $13,500. In 1981 we sold that stock for $6 million and had our loan paid. This was our first big winner, and it is interesting to note that it took twelve years for it to happen. You have probably heard the axiom about venture capital that lemons ripen quickly, but pearls take a long time to cultivate. Regarding the cable TV system, it did not just happen easily. Along the way we were responsible for a complete change of management and three major financial reorganizations. When we got involved with this company, there were fewer than 15 employees. Today International Cable employs 150 people in an area with 13.8-percent unemployment.

An example of SBA and SBIC involvement with our community is Astronics Corporation with sales last year of $11 million and profit of $650,000. The company was started by a man who worked as a technician at Cornell Aeronautical Laboratory. Rand Capital became involved in 1970 after he had already obtained an SBA guaranteed bank loan. Rand hired a business manager and an engineer who took his electroluminescent technology, gave it a business overlay and brought order out of chaos. While they were doing this, we made the payrolls, loaned money as needed for working capital, and arranged for a small underwriting in 1971 which paid off all the debts. Since that time, the company has experienced an annual growth in sales and profits of 20 percent and currently employs 200 people. It may be of interest that in 1977, we gave each owner of two shares of Rand Capital stock one share of Astronics stock as a dividend. Last year we sold the balance of our Astronics stock at a profit.

These are two examples of ideas which became successful businesses. Rand Capital invested in both these companies at the start-up level, the earliest level of entry with the highest risk.

Briefly I would like to discuss the standards we use at Rand Capital when we evaluate prospective investments:

1. Management:

Is there good technical management?

Is there good business management?

Is management capable of taking technology and creating a good business with high growth?

Is the entrepreneur:

Honest, intelligent and knowledgeable in his field.

Flexible.

A motivator of people.

Self analytical.

Desirous to succeed.

Able to act and react.

A risk taker.

Able to understand the concept of being an entrepreneur as compared to a worker.

2. Industry or Service:

Is it high growth?

Will it grow rapidly?

Will it grow profitably?

Can we understand the market?

3. Financing:

Is it adequate to achieve that high growth?

Is there sufficient equity in the company?

Consider the following points:

Protection of our investment.

Liquidity and control.

Pricing and the factors in pricing, management, product, and market.

Financial requirments:

Cash flow for 12 to 18 months.

Financing to sustain growth for 18 to 48 months.

Possibility of public offering or corporate sale in 4 to 5 years.

Ability to attract other investors.

4. Market:
Is there a niche for this product or service?
What are the market trends?
What are the marketing capabilities?
5. Competition: is this a proprietary product or service? Who else is making this product or performing this service? Will our product be better than the competition or as good as the competition? Is the price of the product or service right for market?

During the course of a year, we see approximatly 300 to 400 investment proposals. This past year Rand Capital made five investments:
Distributed Control Systems, Inc., a company which develops computer control energy mangement systems;
Primages Incorporated, which makes high speed printers;
Trac Line Software Company, which markets a series of integrated software packages for micro computers; All these companies are located on Long Island, New York.

Kings Down Communications, Incorporated, of Atlanta, Georgia, publishes financial newsletters.

Our fifth investment was made in one of our portfolio companies. Mr. George Campos, President of Campos Photography Center, Inc., is sitting beside me and will personally describe this investment to you and the positive effects of The Small Business Capital Formation Tax Act on venture capital companies, SBICs, and small business, particularly at the start-up level.

As with all venture capital companies and SBICs, the investments we make are related to the funds we have available. Only after our sale of International Cable and Astronics were we able to make investments in the $300,000 to $500,000 range rather than $100,000; also, only then were we able to make equity investments rather than straight debt. Therefore, we strongly endorse your bill which would benefit not only the venture capital companies and the SBICs but also the small business community who would have more funds available to them from these investment companies.

Thank you, Congressman Nowak, from the citizens of the small business community and Buffalo, New York.

Thank you, Congressman Nowak, for the opportunity to testify today in support of the Small Business Capital Formation Act of 1983, (H.R. 2543). This is an especially proud moment for me, one of your constituents, to testify in the U.S. House of Representatives on behalf of small business. My name is George Campos.

In the short span of 20 years I've come from being a nine-year old runner for the anti-Castro underground in Cuba to the President of a small business in the United States. It's an exhilarating feeling! During my elementary school years, I became an amateur photographer using a brownie camera and I won several photography awards. My interest continued, and more skills developed through high school and college. I worked as a commercial photographer with a studio in my parents' basement to put myself through the University of Buffalo where I graduated in 1973 with a BA in Economics.

About 10 years ago I got this idea as I watched people with thousands of dollars worth of cameras take pictures, send the film to be developed and then be very unhappy with the results. Equipping a color darkroom is very expensive, and the State of the Art is changing so fast that equipment quickly becomes antiquated. But the most serious problem with a home darkroom is that the chemicals are very expensive and they only hold their strength a short time; so, if you don't use the darkroom everyday, you don't get your money's worth.

My business idea was to open up color printing to everyone. Renting a darkroom makes much more sense. We have the latest equipment, we mix all the chemicals, we supply the paper and we keep the place clean. We're not geared toward any specialized crowd. We offer equipment and services that would cost $25,000 to $30,000 to set up in someone's basement darkroom. Clients pay $5 an hour plus 20 cents for each print put through the Simplex Color Processor. They may exercise artistic or experimental manipulations during the enlarging process, but they enjoy completely stable processing. A new customer can take an introductory seminar for $35 or can learn with a brief free orientation by trial and error. Either way, we have people printing within 10 minutes.

This was my idea—now I'd like to describe how that idea became a business.

In 1979 I met Donald A. Ross, President of Rand Capital Corporation. Mr. Ross listened to my idea for a business and liked it. After weeks of due diligence which included feasibility studies, market analysis and financial forecasts, Rand Capital introduced me to Chemical Bank in Buffalo which granted me a $100,000 loan

backed by the U.S. Small Business Administration. Rand Capital agreed to invest a total of $200,000: $20,000 for the first store, the balance for several more stores after that. Never was my business meant to be a one-store business. In addition, Rand insisted on an equity investment of $15,000 from my wife and me.

Campos Photography Center, Inc. opened in Western New York on March 19, 1979.

During 1980, the following events occurred:

Interest rates went to 22 percent; projections in my business plan were based on 8 percent.

The price of silver increased 50 percent.

The price of supplies increased 50 percent.

Customers stopped coming; sales dropped.

A direct-mail advertising campaign with Eastman Kodak backfired at a cost of $5,000.

My business bled for six months. During that time I worked at developing better controls in the business operation and became a "hands-on" manager. I also worked hard to combine my optimism with my pragmatism: I kept planning my second store due to open three years after the first store according to initial financial projections. All this while keeping the first store alive.

Although there are instamatic cameras which can produce beautiful pictures, there was nothing instamatic about the survival and success of my business.

In February 1983, our second store opened as scheduled in Rochester, New York.

My business is not an Eastman Kodak, but it is a vehicle by which companies like Kodak can use to introduce their new high-technology products to the marketplace and successfully maintain the supremacy of American technology. In the same way that Apple Computer took the unrelated computer technolgy and created a concept that brought the power of the computer to the individual, we have done the same thing with state of the art photographic equipment.

May I add that just about every major piece of equipment was designed and manufactured in the United States by American workers.

This concept, my business, has developed into two stores; and now with inquiries for more stores across the country, I'm at the point where I need more than my own resources.

There are businesses that are trying to satisfy America's present and future needs; and because we are a group of people who are trying to improve our lives, the satisfaction of those needs holds the key to an explosion of real jobs.

As we have heard this morning, there is a great amount of money being raised by venture capital companies, most of it going into new business. Keith Wiley mentioned that Rand Capital sees approximately 300–400 investment proposals each year.

Certainly the more money available for venture capital, the more money available to invest in new companies. That's a good idea.

However, as a president of a small business, I would like to make another proposal.

We hear and read so much these days about the comparison between the Japanese companies and the American companies. In fact, many American businessmen and business school professors have visited Japan to study these companies. There have been some surprises in their research; American technology is far advanced and more creative than Japanese technology.

But we are so short-time oriented—we need to give our businesses more time to reach the high-growth potential of its technology.

The Japanese are using our innovative technologies and forming companies with long-term plans for growth—10, 20 and 30 years.

Many times in American small businesses you don't have the luxury of thinking past next month.

My proposal is not only to start new businesses with high-growth potential but also to put more money into current viable small businesses when needed.

The proposed Small Business Capital Formation Tax Act, I think, would be an exceptional opportunity and vehicle for both venture capital companies and our government. The venture capital companies and SBIC's would have money to put into new investments and also into their current portfolio companies to help them grow. Although short term, the U.S. government will receive less money through taxes from a venture capital company, long term they will receive more tax money from more companies which will be able to start, survive, grow and mature.

I congratulate you, Mr. Nowak, on this proposed tax bill, H.R. 2543; I heartily endorse it and support it.

Thank you for the opportunity to address your subcommittee on behalf of all small businessmen not only in Buffalo but also in the United States.

CONCLUSION

In conclusion I would summarize by saying that the SBIC industry is a unique growth industry on the move by providing venture capital to small growth companies, developing new technologies, creating new jobs, and generating new tax revenues for the Government.

H.R. 2543, The Small Business Capital Formation Tax Act, is based on six recommendations submitted by delegates to the first SEC Government—Business Forum on Small Business Capital Formation held last fall.

This bill would be of great benefit to Rand Capital, other venture capital companies and SBIC's.

Thank you, Congressman Nowak, for your sincere interest in the venture capital and SBIC industries and the small business community. Thank you especially from the citizens of Buffalo, New York.

[From the Buffalo News, Nov. 1979]

WATCH THIS MAN—AND HIS IDEA

(By Mike McKeating)

Remember the name George Campos. A few decades from now, it might be a household word in business world.

A few years back Mr. Campos got an idea, and on Thursday he closed a loan "into six figures" from Chemical Bank of Buffalo, which together with another loan believed to be in six figures from Rand Capital Co., will enable him to make his dream a reality.

Mr. Campos' idea belongs to that special class of ideas—the ones that are so simple and logical that as you hear them, you kick yourself for not thinking of them.

Mr. Campos is going to open a "rent-a-color-darkroom" business for the serious amateur and semi-professional color photographer.

Located at 1016 Niagara Falls Boulevard, just north of Sheridan Ave., Campos Photography Center will have 12 color darkrooms, each containing equipment that would cost any hobbyist $20,000 to $25,000.

Photographers will be able to rent the darkrooms for $4 an hour. Campos will keep the chemicals constantly fresh and clean, and also sell the other supplies to the photographer.

The photographer will be able to reserve time in the darkroom by calling ahead, just like in a racquetball club.

Staff will be available to help the photographer improve his pictures with technical hints if he wishes, or he can do it himself.

"We are trying to target in on a very defined segment of the market," Mr. Campos said. "The serious hobbyist and semi-professional who may have a lot of money tied up in cameras, but no way to control the quality of his developing and printing."

He'll be breaking new ground, but George Campos is used to facing difficulties. Born in Cuba, he fled the Castro regime with his family at the age of three, and lived in Miami. The family came to Buffalo when he was 11.

George's father is an accountant, but both his grandfathers were independent businessmen.

He began working as a commercial photographer to put himself through the State University of Buffalo, where he graduated with a BA in economics in 1973.

"I got this idea about 2½ years ago," Mr. Campos said. "I used to do weddings, and as the years went by I noticed more and more people at the weddings with very sophisticated photographic equipment."

"It was not unusual to see people with thousands of dollars worth of cameras, and then they would send the film out to be developed, and be very unhappy with the results," he noted.

Equipping a color darkroom is very expensive, and the state of the art is changing so fast equipment quickly becomes antiquated. But the most serious problem with a home darkroom, Mr. Campos explains, is that the chemicals are very expensive and they only hold their strength a short time, so if you don't use the darkroom every day, you don't get your money's worth.

Renting a darkroom makes much more sense, Mr. Campos says. "We'll have the latest equipment, we'll mix all the chemicals, we'll supply the paper and keep the place clean."

After letting the idea germinate for a couple of years, Mr. Campos took it to Donald Ross, president of Rand Capital, a Buffalo-based venture capital firm that helps new companies get financing.

Mr. Ross listened to the idea and liked it immediately. He then turned Mr. Campos over to Robert C. Hayman, vice president of Rand Capital, who guided him through feasibility studies, market analysis studies and research.

"Ross and Hayman complement each other," Mr. Campos said. "Mr. Ross is very enthusiastic, and Mr. Hayman is hard nosed and makes you prove everything. They hear good ideas every day, so when they said they would support this one, I knew it was good."

Rand Capital then introduced Mr. Campos to Chemical Bank, where loan officer Dennis Dombeck put him through the hoops again.

"I was very impressed with the professionalism at Chemical," Mr. Campos said. "By the time they got through questioning me, I felt they knew the business as well as I did."

Chemical granted the loan, backed by the U.S. Small Business Administration.

If the idea is so good, why hasn't somebody thought of it before?

"They have, but usually they were under-capitalized, and they went under. We won't make that mistake," Mr. Campos says.

He and his design people have visited the most modern darkrooms in the country, including those at Kodak and the Rochester Institute of Technology, and incorporated the best features into their darkrooms.

If the idea catches on as he thinks it will, he intends to open up other locations here and in other major cities around the country quickly.

Which brings up another question: If the idea is so good, why can't somebody steal it?

"They can, but they won't be able to compete, because we're onto some real state-of-the art breakthroughs in our darkroom design, and nobody—even those working with me—knows where all the pieces are." he says.

In addition to Rand Capital and Chemical Bank, Mr. Campos has a third backer. His wife, Virginia.

The couple just had a baby a few weeks ago. They had been living in Mr. Campos father's house and saving their money to buy a house. They could have bought it this spring.

"I discussed with her whether we should buy the house or put it into the business, and she said 'put it in the business,' " Mr. Campos said.

"This is a classic venture capital case," said Mr. Ross, "You put a young entrepreneur with nothing but a good idea, guts, and ability together with the capital it takes to make the idea a reality. That's what venture capital is all about."

If the idea works in a few years you could be seeing the Campos logo in cities around the country.

Rand Capital, Chemical Bank and George Campos are betting that you will. *That* is what venture capital is all about.

[From the Buffalo Evening News, May 3, 1979]

HERE'S DO-IT-YOURSELF COLOR PROCESSING

(By Anthony Bannon)

"People say that Buffalo gets things after every other city, that we're rarely first. Well, this is one time Buffalo may have gotten something well before everybody else."

The speaker is George Campos, a young entrepreneur and photographer who has established Campos Photography Center, 1016 Niagara Falls Blvd. at Sheridan Drive. It is a do-it-yourself color photography lab, which, by his accounting and that of Eastman Kodak representatives who work with him, appears to be the most sophisticated in the country.

The idea is "to open up color printing to everybody," said Mr. Campos. "We're not geared toward any specialized crowd. Photography support places often take the approach that they will attract people who have a certain attitude . . . It's either the art photography or the family photography crowd.

"But we take very great care not to make any kind of statement about the kind of photography a person is doing."

The statement made, instead, is that Campos Photography offers in equipment and services what would cost from $25,000 to $30,000 to set up in one's basement darkroom.

In 12 separate rooms, each with its own separate circuits and air circulation system, Campos supplies Beseler color enlargers, 10 of them capable of creating prints up to 20 by 30 inches from negatives up to 2¼ by 2¾ inches. The other two take up to a 4 by 5 inch negative for a 30 by 40 inch print.

Each enlarger is equipped with Schneider Componon-S lenses and each room, in addition to the standard support equipment, has a sophisticated Beseler color analyzer.

In a common area a Simplex 33 inch rubber transport color processor is available. The processor, which mechanically supplies the chemistry to bring out a color image, is precisely temperature-controlled and checked for proper chemical balances at least twice daily, Mr. Campos said.

Clients who pay $4 an hour plus 20 cents for each print put through the Simplex may exercise artistic or experimental manipulations during the enlarging process, but they enjoy completely stable processing.

A new customer can take an introductory seminar for $25 and receive $20 in supplies, or can learn with a brief, free orientation by trial and error. "Either way, we have people printing within ten minutes," Mr. Campos said.

The 27-year-old Campos is a native Cuban who fled the country with his parents in 1961, graduated from State University of Buffalo, and established his own commercial photography studio at 1109 Elmwood Ave. He now looks forward to the possibility of establishing other photography centers in large cities, and is keeping close watch on system control in this operation.

He is aided by a staff including Bob Willoughby, Diane Bush, David Piazza and his wife Virginia, each with maintenance over a particular area, but trained to be interchangeable with each other in all aspects of operation.

The Center processes negatives and does custom printing, also. It plans a series of seminars and cooperative classes and provides a free print-finishing area for cutting, mounting, framing and analysis of pictures. It is open seven days a week from 4 p.m. to midnight, but plans soon to expand hours from 11 a.m. to 11 p.m.

THE BUFFALO NEWS

Saturday, November 22, 1980

CAMPOS PHOTOGRAPHY CENTER, INC.

—News Staff Photographer Richard W Roeller

THEIR BUSINESS CLICKED— Standing in the reception area of their photography center at 1016 Niagara Falls Blvd. are owners George and Virginai Campos. The couple plans a similar facility in Toronto soon, as well as centers in other major cities.

[From the Buffalo News, Nov. 22, 1980]

CAMPOS PHOTO HOPES TO EXPAND NATIONALLY

(By Margaret Sullivan)

Whoever invented the wheel must have felt a little like George and Virginia Campos do these days.

"What we did was so simple . . . so obvious. And yet it has fulfilled a real need," Mr. Campos says.

What they did was open a photography center to provide "serious amateur" photographers with services and facilities for developing and printing their own photos.

The Campos Photography Center at 1016 Niagara Falls Blvd. stands as a bustling, flourishing testament to the principle that the dreams of enterprising small business people can come true.

In any given day, 40 or 50 people will rent out the 12 small darkrooms at the center, and use the enlarging and color processing equipment to make prints. Another 40 or 50 will come to the center to use its other photographic services, like film developing.

"As a freelance photographer, I slowly came to realize how much a place like this was needed," Mr. Campos said. The young couple previously had run a freelance photography outfit on Elmwood Ave.

That a real need has been fulfilled becomes vividly apparent through a visit to the center. People from Boston, part of Ohio and Rochester were there Friday to use the services and equipment that simply aren't available anywhere else.

Mr. Campos knows that he's got a good thing. And he doesn't plan to stop with one center.

A Toronto location may be open to the public by fall of next year, and that's only the beginning. With a tone of utter confidence and determination, Mr. Campos declares that he plans to be in "all the major cities within a few years."

The Camposes have traveled a long road to arrive at that sort of declaration. Their beginnings were anything but cocksure.

"The idea's been in my head for probably ten years," Mr. Campos told a group of would-be entrepreneurs Friday afternoon. The couple spoke about their experiences at a day-long small business seminar for women at the Charter House.

Talking about the emotion, as well as practical aspects of opening a small business, the couple recalled the first months of their venture.

"We had about $15,000 that we were planning to spend on a house, since we were living in an attic," Mrs. Campos told the group.

Instead, they entered into a deal with Rand Capital Corp., Chemical Bank and the Small Business Administration.

"It was a case of deciding very firmly what we wanted to do, and deciding that we could live with the sacrifices we would need to make to do it." Mr. Campos recalls.

One of the sacrifices was being subject to time schedules beyond their control. Mrs. Campos can testify to that—she signed the loan guarantee in a hospital recovery room only a few hours after their second child was born.

The Camposes attribute some success to appealing to a wide range of people—both in income and in photographic ability.

Their fees are reasonable—$35 for an initial seminar in using the facilities, and $4 an hour for darkroom rental after that. The hourly rates decline as customers rack up usage hours. And almost anyone can turn up at the center.

"We have top-notch, prize-winning professionals in here, and in the next darkroom over, there's likely to be the kid from the grocery store, a dentist, or a housewife," Mrs. Campos said.

"The number and variety of customers we're getting is encouraging us to dream bigger dreams," Mr. Campos said.

The Small Business Seminar for Women was sponsored by the D'Youville College Center for Women in Management, the U.S. Small Business Administration, and the U.S. Department of Commerce.

Among the speakers were: Dr. Kathleen Connor, director of Center for Women in Management; Dennis Dombeck, vice president Chemical Bank; Diane McMahon, attorney; Franklin Sciortino, SBA branch manager; Harry Jacobs, chairman, Task Force on Business Continuity; Linda Heine, accountant; Henry Wile, insurance CLU, New England Life; Elizabeth Perno, SBA loan officer; Marjorie Baker, SCORE Counselor. Co-ordinating the seminar with Dr. Connor was Barbara Stack of Rand Capital Corp.

[From the Buffalo Courier-Express, Oct. 18, 1981]

SMALL BUSINESSES COPE IN DIFFICULT TIMES

(By Dale C. English)

In 1978, George Campos wanted to open a photography center that would be something other than what he calls "a camera store." To do that, he needed money.

So Campos went shopping for funds to finance his dream. The prime interest rate was, in today's terms, a paltry 8½ percent and commercial loans for a businessman like Campos, an experienced professional photographer, were going for 2 percent above the prime rate.

It seemed like a decent deal at the time, so Campos signed up for a $100,000 loan at 10½ percent through the Chemical Bank—a loan which was guaranteed by the federal Small Business Administration.

But there was a catch. The interest rate on Campos' loan was keyed to the prime interest rate. If it went up, so did the interest rate on his loan.

"The prime was 8½ percent when we began negotiating. It had never gone over 12 percent since the Civil War. At the time no one ever expected it to go over that," Campos recalled in a recent interview.

Now, the prime rate rests at 18 percent—down from the 20 percent it reached a few weeks ago. For Campos, it means he's now paying 20 percent interest on his loan—nearly double what he started paying when he opened the business in early 1979. It's quite a chunk to take out of a new business.

But the Campos Photography Center at 1016 Niagara Falls Blvd., in the Town of Tonawanda is making it. In 1979, it had four employees, including Campos. Customers come not only from the Buffalo area, "but some literally fly in. We have customers coming from 600 or 700 miles away to use our services," Campos said. "We're doing very well. If it wasn't for the economy, we'd be doing phenomenally," he added.

The point is that Campos, like hundreds of other small businesses in the Buffalo area, is succeeding in the face of astronomical interest rates on loans, a downtrodden economy, high unemployment rates and related ills which would seem to place an immovable brick wall in front of anyone starting a new business.

In fact, evidence provided to the Courier-Express by a number of people familiar with small-business problems indicates that high interest rates are no overriding barrier to people trying to start their own enterprises.

People starting their own businesses file incorporation papers or assumed names certificates with the Erie County Clerk's Office to protect the name they've chosen for their company, among other things. The papers also give the public an idea of what a business will do—sell gasoline, cut hair, clean clothes or whatever.

County Clerk Genevieve Starosiak said 5,264 certificates were filed in 1978, 5,990 in 1979 and 5,669 last year. This year, 4,258 were filed through the end of September—an indication that the number of filings in 1981 will be about the same as in previous years.

The figures take on added meaning when stacked against the prime interest rate. The prime rate averaged 9.06 percent in 1978 and 12.67 percent in 1979. It soared above 16 percent last year and currently is running in the 18–20 percent range.

There are no precise figures showing how many proposed small businesses actually began operations or stayed in Erie County in recent years. Records in the U.S. Bankruptcy Court here aren't much help in determining small-business mortality rates.

Those figures show that only 419 business bankruptcy petitions were filed in 1980. Three hundred fifty-four were logged this year, through the end of September, a figure which suggests that total filings for 1981 may be slightly above last year's figures. The figures cover all eight counties of Western New York, not just Erie County.

The default rate on loans guaranteed through the Small Business Administration's Buffalo office is running about 2.5 percent, according to its manager, Franklin J. Sciortino. That compares with a 4-percent nationwide rate. And that office pumped out 3,444 loans worth $95.9 million last year, $7.5 million more than in 1979.

Nevertheless, local small-business experts believe the vast majority of new businesses here and elsewhere go belly-up—if not immediately, then in their first five years of existence. They also believe that while interest rates are a factor in the demise of some small businesses, plenty of other factors are involved.

David Birch, chairman of the Business Resource Development Program at Medaille College, said high interest rates "are a current reason" listed for business failures. But, he added:

"Small businesses were failing regularly before high interest rates for a number of reasons. Small businesses tend to enter overcrowded markets such as bars and restaurants. On top of that there is a lack of understanding of the procedures of small businesses. People get into business before they are properly prepared in such things as marketing principles or financial management.

"Innovation is the key to success in business. You must show the banks you can earn money even with the high interest rates."

By "innovation," Birch was not referring only to a prospective businessman's organization of a sound, long-range financial blueprint for the business but also to his or her development of a fresh idea for the given service or product.

That might be a key to Campos' success.

When Campos explains his business, he starts by emphasizing, "We are not a camera store." He then goes on to explain that amateur and professional photographers come there to develop their film and make their prints "with the best equipment" and in the company of other photographers with whom they can compare notes.

In addition, it saves the casual photographer the expense of equipping his own photo lab and allows a professional, such as a person who specializes in taking wedding pictures, to operate without a large equipment overhead.

Birch noted that "current national SBA figures show there are about 500,000 new businesses organized annually and only about a quarter of them—125,000—survive their first five years.

"The situation is probably worse here because we are a depressed area," Birch said. However, he added, "If they survive that, they are usually very successful."

Harry Jacobs, former Buffalo Bills linebacker who started his own small business here a decade ago, runs Harry Jacobs Associates, which specializes in the problems of small businesses. He pointed out that, in fact, small business is not only big business, but it's where the future is for job development.

"There are about 400,000 businesses in the state, and 81 percent employ less than 10 persons. Ninety-eight percent have less than 100 employees. Half of all the sales taxes the state collects come from businesses with less than 100 employees," Jacobs said.

He estimated that in the next few years, about 90 percent of the job opportunities in Western New York will be in small business, with only a handful going to major industries like Bethlehem Steel, General Motors or government.

However, for small businesses to provide those job opportunities, they must first prosper and expand. It's at that point where the high prime interest rate starts to grind. Campos put it in perspective when he spoke of the long-term impact his 20-percent loan has on his operations.

"It's the highest-paid employee we have," he quipped with forced levity. "It is postponing growth."

The problem, as Campos sees it, is that because he must put so much more money into paying off his original loan, he can't put as much aside to plow back into the business for expansion purposes. That also limits his ability to borrow more money for expansion. Some of the blame for that, Campos feels, lies with the banks.

"They are making out in the short term. They can make 20 cents on the dollar now," but if the prime rate went down and stabilized, more money could be available for business expansion, particularly through loans, he noted.

"Banks' short-range costs force them to charge high interest rates for loans (usually 2 or 3 percent over the prime rate), but they don't take in the long-range need for small businesses" to raise capital, Jacobs pointed out.

The reduction in interest rates could produce a snowball. More capital could then be generated for business expansion. That would create jobs for workers, which would generate paychecks which can be spent—increasing revenue for business—or banked, creating more money bankers can use for lending.

Jacobs also sees a role for government in holding down interest rates and in creating an economic climate for business expansion. Some months ago, he made this point in an interview:

"We are going to need targeted tax credits and tax reductions to be able to produce more capital, to be able to produce more business, which will produce more jobs, which produces more income, which produces more income for the state and federal governments to operate on. Until they really begin to buy that, we won't be successful, our country won't turn around as far as I am concerned."

Peter Falcon, president of Chemical Bank, reinforced that by noting that the federal deficit—now projected at between $45 billion and $60 billion in the current fiscal year—is "in competition" with businesses for borrowed money. That is because the federal government must borrow money to cover its deficit, and then pay interest on the borrowed money.

"High interest rates add to inflation; they are a source of inflation," Falcon said. Interest costs for businesses have a way of being passed along to the consumer in the form of higher prices.

Despite the generally gloomy interest rate picture, Falcon provided a ray of sunshine for small businesses.

"Small businesses can react to increased costs faster than large corporations. It is easier for the small businesses to cut back inventories, juggle production schedules and speed up collection of their receivables. A large company has corporatitis," Falcon asserted. He specifically mentioned the intense financial difficulties of Chrysler and International Harvester as examples of big corporations getting into trouble because they couldn't react to changing business conditions fast enough.

In other words, it's easier for a corner store to cut back on inventory than it is for Chrysler to peddle a load of unsold cars.

Falcon, like Sciortino of the Small Business Administration and Birch, believes that despite the high interest rates, small businesses can survive.

"If you deliver a quality product on time, you should do OK," Falcon declared.

Sciortino, whose office has been conducting periodic "survival seminars" for small businessmen, declared that "lack of management ability, not money, is the biggest reason for small-business failure. If you took 9 out of 10 that failed, nine would be because of management ability and one for lack of money. Loaning businesses money is like pouring it down a sewer because people don't know how to handle it."

But he was quick to add, "Sure they can survive if they know how to manage money under present economic conditions."

Mr. NOWAK. Thank you very much for your testimony, Mr. Campos. We have been trying to find the right mix of incentives that will make a difference. In my opening statement, I refer to the changing financial structure that especially small businessmen are going to be dealing with. I think we have to realistically look at the competition for funds.

If you are not the entrepreneur but you still want to invest in the small business area, you have an awful lot of vehicles to look at. If we are looking at only the short-term profit, you have the stock market, of course; you have IRA's; you have got the money market funds; you have a whole array of things.

I think that we are going to find some real capital shortfalls if we do not bring some of these incentives into the system as we try to bring about a greater supply of cash to assist small business, and therefore, to employ those people we talked about that are going to be structurally unemployed.

When we look at the array of statistics which show that small business has probably created 70 to 80 percent of the new jobs in this country over the last 10 years, it becomes very evident that if we are going to have an impact on structural unemployment, it is going to have to come from a broadening of the small business sector. It does not seem to happen the other way around.

I am interested in a couple of points you made about the time it takes and how your small business developed. I wonder if, in your association with Rand, you feel the management services that they brought to bear on your particular financial problems were beneficial to you, besides the cash that was put into the corporation.

Mr. CAMPOS. Yes. There is another point that you are talking about now which is there are many vehicles for financial investments out there, IRA's, and so forth. You mentioned previously

that in a lot of industries, you can get more than just a 1-for-1 tax break. You mentioned oil depletion allowances and so forth.

A lot of times, all we are asking is to be treated legislatively the same way that the big companies are getting treated. Many times it is even riskier to invest in a company like mine, which is a complete startup with a brand new idea, than it is to put some money into some oil exploration fund. Yet, when somebody has the capital to invest they are getting a lot bigger tax break by putting it into certain industries. So all we are asking is just equal treatment.

The second point you mentioned is Rand Capital's financial services, marketing services and so forth. When you are a small businessman, you are really out there by yourself. I probably cannot overemphasize the point. I do not want to make it sound too simple, but when you are part of government, you have a lot of associates and aides. When you are in business, you are literally trying to make all the decisions as a single person. You are the plumber until 9 a.m., and then you become the carpenter from 9 to 9:30, and then you become the financial adviser from 9:30 until 10, and so forth.

So having a network like Rand Capital where they have many skilled individuals can help with many different facets of my business either directly as their own portfolio company or they can put me in contact and make me aware of people like yourselves who can help me with many different things. They are a very, very valuable asset.

Mr. NOWAK. Management assistance, I had always believed, is another great reason for the SBIC's to be in existence. We have problems in all of these areas, especially today with the confusing changes in the structure, the financial structure. It used to be a relatively simple matter when you had the Banking Act, and you had the choice of putting your money at 5¼ percent, very safe and very well insured, and trying to make 15 percent in the stock market or any other investment.

Over the last 2 years, of course, you could have taken that same profit. If you inherited $1 million, and you work out these figures, it is staggering. If you inherited $1 million in 1960, you put that at 5¼ percent, went to Florida, in 15 years you come back and you have $2 million.

In last year's market—and that is why I keep talking about the competition for these kinds of funds—whether they are going to go in a small business or in the other vehicles that are available, if you took the 15-percent bond which was available in higher rates than that, but just take the 15 percent and you took that same $1 million and went to Florida, you would come back and find that has compounded out to about $8 million. So instead of having $2 million, you have $8 million without risk, without investment.

Instead of taking that and putting that money into small business or buying stock or buying an apartment house or putting it up at risk, you could come out with those kinds of multiples.

The borrowers, the net borrowers in this economy, of course, are going to be the ones paying that tremendous differential between the real interest rate that is out there and the inflation rate. So I think we have to try to get control of that and also realize that if we are going to make small business investment attractive, we are

going to have to use the Tax Code, as you say, at least to get on some equal footing.

As a small businessman, you cannot take the huge depreciation usually, because you do not have the building and machinery to depreciate. So you are going to have to find some other vehicle to do that.

Mr. CAMPOS. There is another point that I want to mention. A lot of times we forget the scale of a lot of these small businesses we are talking about. Many of the so-called high-technology companies we are talking about today in order to get up to a point where they become viable businesses do not need the tremendous amount of capital investment.

Often we are talking to leverage banking money and to leverage SBA money; you are really talking about investments that are under $100,000. I am not saying once they become viable companies, but I am saying at the startup phase, to get them to that phase. They are within the dollar range that literally wealthy individuals can individually support it if they had the tax breaks to in fact, support it.

Many times, to get a small business going, it does not take a tremendous amount of money. We are not talking about the industries of 50 years ago that were extremely capital-intensive right up front; now we are talking about businesses that become capital-intensive only after they have proven some success in the marketplace.

Mr. NOWAK. I wonder, Mr. Wiley, if I could just ask you a question about the additional sources of capital that you may bring your clients or the advice that you give to your own portfolio, other than direct funding by the SBIC you are involved with.

Mr. WILEY. We have at our exposure some available city funds such as urban development grants, Erie County industrial bonds, loan arrangements through banking sources, and participation of other small venture capital groups.

Because of our history and track record, we can go after these kinds of funds with a great deal of success if we feel it is necessary. The small businessman himself, as George stated, is all alone, and he is not sure of the many vehicles that are available to him.

Groups like Rand Capital, who have city, county, State, Federal and national associations, can bring those kinds of vehicles to the front to help meet their funding requirements. We generally like to work with other venture capital groups, in a syndication, sharing risks and increasing the financial base. But, again, there are so many avenues to take, once a sophisticated investment group is involved.

Mr. NOWAK. I guess, Mr. Stults, I could direct this to you, as you see the changes in the financial industries and the competition for funds, such as the IRA expansion and money market funds which have been reduced from a high, I believe, of about $230 billion back down to about $150 billion. So we can see very readily how the market responds and the people will respond to these different initiatives that are passed in Congress.

So we find, and the figures of Mr. Pratt show, too, that as soon as there are economic incentives, they will be followed by many in the area. Because of the changes in the financial structures and the in-

terest rates today, do you see any expanded role for all the SBIC's out there?

Is this going to be an area where perhaps, as I look at it, there may be an expanding role of both managerial advice and capital for these SBIC's to play?

Mr. STULTS. Mr. Chairman, I would agree 100 percent with you. I agree with Stan Pratt when he said there probably are 100 potential entrepreneurs out there for every one we are helping today. The fact that we are putting out 10 times as much money as we did 5 years ago, 6 years ago, certainly gives the lie to the fact that there will be a point where there is saturation in the American economy of venture capital.

Both the SBIC segment, which essentially is characterized by the use of leverage which allows an SBIC to make more "mundane"—we will put that in quotes—investments. Less explosive growth situations are financed by SBIC's because of the use of leverage. The venture capital firms, with their phenomenal record over the last 10 to 15 years of return on investment, have grown magnificently so that I think the two arms of the venture capital industry have a vastly more important role to play.

About smokestack industries, the situation you were pointing out in Buffalo and Erie County: Stan Pratt could have talked about his own State of Massachusetts where there was great lamentation when the textile mills fled to the South, and fortunately a nice man named Wang came in and took over a lot of the old textile mills and is using them very effectively now to put out word processing and computer equipment.

There are serious dislocations, personal dislocations, as you know, but we believe that innovation will bring the jobs, the kinds of incentives put in your bill. Your legislation, we think, will accelerate the resource growth that we have in our industry.

Mr. NOWAK. Well, it will accelerate it if you have proper incentives to keep this movement going.

Let me call on Mr. Vandergriff from Texas.

Mr. VANDERGRIFF. Mr. Wiley, you made some comment during the course of your testimony about giving stock in a company to your own stockholders?

Mr. WILEY. Yes, sir.

Mr. VANDERGRIFF. That, evidently, was very advantageous to your stockholders?

Mr. WILEY. Well, our venture capital company is publicly traded and we gave back in 1977, for every two shares of Rand ownership, a share of Astronics as a way to return to our stockholders the success we had with that investment. At that time, I think the Astronics stock was trading publicly at about $2 a share. As of yesterday, it is 10¼. So our stockholders have benefited from the Astronics investment.

Mr. VANDERGRIFF. To your knowledge, is that a fairly unique action for a company like yours?

Mr. WILEY. I think we have to give some incentives. When we started in 1969, the availability of pools for venture capital were not as easy as it is today. We took the public route in 1971.

A lot of venture capital companies have a cash dividend awarded to their stockholders; some a stock dividend. I believe this is a common action, and one that benefited our stockholders as well.

Mr. VANDERGRIFF. Well, I commend you for it. There was another comment you made that interested me a great deal. You said that you had invested in a company in Atlanta. Somehow, I have the thought in mind that ordinarily you would serve a particular area, your home area, that is why you were formed. Now, how did that come about? I wonder if you would expand upon that a bit for me.

Mr. WILEY. Sure.

Mr. VANDERGRIFF. It does not have too much to do with the legislation we are concerned with here, and yet I am curious as to how that came about.

Mr. WILEY. Again, we look at maybe 300 to 500 new deals a year. We try to get into local situations if the idea is there, if the management is there. Sometimes we have a situation that can bring some hands-on talent, something more to the table than just cash dollars.

We have a situation where one of our directors is a prominent publisher. We felt that this kind of investment would utilize his skills in publishing as well as our own skills in venture capital. This company is in Atlanta. We invested in a man working in his basement who had bought a microcomputer. He left "Institutional Investor" and started publishing newsletters on banking issues in his basement.

We feel he is very talented; and the possibility of making a good return from this investment was very clear to us. In addition, we could provide some hands-on experience with our board member who is in publishing. So we thought, even though it was in Atlanta, that it would be a good investment for Rand to make. It has a subscription base of about 600. We have been in the investment since January, when there were only 150 subscribers.

Mr. VANDERGRIFF. There are no doubt SBIC's in Atlanta, however.

Mr. WILEY. I am not sure of the actual number, but I think the SBIC activity in Atlanta is very limited.

Mr. VANDERGRIFF. Very limited?

Mr. WILEY. Why, I do not know.

Mr. VANDERGRIFF. Mr. Stults, is this somewhat of a departure from the norm or am I just unaware of this type of phenomenon?

Mr. STULTS. Mr. Vandergriff, most SBIC's concentrate in their local area, but participate in deals throughout the country. As Mr. Wiley has said, where they have a particular degree of expertise, they are likely to hear through the grapevine of investment opportunities.

I would say that most all SBIC's and venture capital firms have a portfolio represented by companies outside of their immediate operating area. Diversification, as among industries, diversification as between geographical areas, is probably a fairly sound and general investment strategy.

You do not have all of your eggs in Detroit, or all of them in Atlanta when the real estate bubble bursts; Detroit, when the auto-

mobile industry goes down. It probably makes sense to spread your horizon somewhat.

Mr. VANDERGRIFF. I see. That is very enlightening to me. Thank you very much.

Mr. NOWAK. I might add, as soon as that company grows a little more, we are going to bring them to Buffalo. [Laughter.]

That was one of the big reasons.

Mr. Britt from North Carolina.

Mr. BRITT. Thank you, Mr. Chairman.

Mr. Stults, in your testimony, you mentioned the SBIC's and the startup problem. I think that because of the debt service, you indicate that it is extremely difficult for an SBIC to invest in startups because of the debt-service costs that it must make to the Treasury.

Would you elaborate on that a little bit? I suppose that perhaps this private-sector funding that you are envisioning might have an impact on that, and I think, as I understand the SBIC and what I hear, that is of some major source of problems in that you cannot, while you face the debt service, really place moneys into the high-risk ventures.

Mr. STULTS. Mr. Britt, SBA figures show that about one-third of our disbursements of all SBIC disbursements in 1982 went to firms of 1-year old or less. I would certainly describe that as an early stage, if not startup.

The other two-thirds, then, went into businesses that were more than 1-year old. There is no question but that an SBIC utilizing leverage with debt-service—we are paying roughly 10 to 11 percent for our borrowings from SBA now, has to face not only operating costs, but to cover that debt-service charge, the SBIC better have in its portfolio loans and investments that give it enough of a return to pay off Uncle Sam when the payment is due each 6 months. We borrow from SBA at somewhat above Treasury rates.

I should say there have been several instances where SBIC's have utilized leverage and have gone 100 percent into startup, early situation, common stock deals. Fortunately, SBA has been a good partner in those situations. Fortunately, the portfolio has matured in time so when the borrowings became due, when they matured, the SBIC's portfolio had significantly increased in value. So the SBIC could pay off the whole debt, not just the debt-service.

Mr. BRITT. Conceptually in your mind, should the SBIC be more oriented to risky ventures, more into startups? So what should be done to facilitate that?

Mr. STULTS. I think that, No. 1, our capital bank concept will give an SBIC that wishes more of a shot in that direction. I think that every SBIC will, as it matures, have the one-third of the disbursements that were startups in 1982; by 1985 may well be paying dividends or may well have cashed out. So that the SBIC at that point will be able to do more than one-third in straight equity situations.

Nonetheless, we can structure our investments often as a loan, in the form of a subordinated loan with no amortization, in a way that will be more attractive to the entrepreneur, to the small businessman, than pure stock.

If all we were going to get back was stock without any interest, we would take probably a bigger piece of the equity, No. 1.

No. 2, if we structured it in the form of preferred stock, the businessman would be paying us in after-tax dollars. It is nicer for him to give up less stock perhaps, and also to pay us off before the tax collector hits him.

So that we structure deals which are essentially venture capital, but we may put them in the form of a subordinated, convertible, subordinated debenture with warrants. Both sides in that situation come out all right.

Mr. BRITT. What is the makeup of the two-thirds that are taking the lion's share? Are these relatively new businesses that have a high prospect of success or simply need, as we heard earlier, sort of a second infusion of capital?

Mr. STULTS. Yes, sir, in most situations, they would be existing businesses that are at least throwing off enough cashflow to service any debts. I think it is safe to say in every situation, however, the SBIC's debt is subordinated to everybody else except the owner/manager. So that while on a balance sheet it shows as debt, as far as other potential sources of credit are concerned, it looks like equity, specifically a loan to Mr. Campos that is subordinated, nonamortized. When the bank comes in, it is not only George's capital that is underneath it, it is the SBIC's debt which is subordinated, so there is equal comfort for the bank in that kind of a situation, than if we had injected straight equity.

Mr. BRITT. Would most of those companies have been able to obtain financing outside of the SBIC?

Mr. STULTS. Never. Almost never. Because, in a perfect world, I assume Mr. Campos would much prefer to own 100 percent of his business than 60 percent of it. The entrepreneur, the businessman comes to an SBIC after he has exhausted his nonequity lines of credit.

Mr. BRITT. So it is an important role, even if it is the intermediate role of not necessarily primarily startups, but it is enabling businesses that might not otherwise be able to obtain financing to, after startup and some success, continue on the road.

Mr. STULTS. Yes, Mr. Britt, and a study done for us by Arthur D. Little, Inc., indicated—demonstrated that portfolio companies of SBIC's grew 10 times as fast in employment, sales, and profits as the average small business. So that we did do a good job of choosing and the small businessman getting our bucks was able to really take off.

We think that is good for both sides.

Mr. BRITT. What aspects of that program would you say are the most successful; what is really working for SBIC's?

Mr. STULTS. The program itself, what is working for the owners of the SBIC, the small business——

Mr. BRITT. Can you describe to me what is really dovetailing, what is really being effective in the SBIC program?

Mr. STULTS. OK. Basic design of the SBIC program is that the SBIC owners lose 100 cents on their dollar before Uncle Sam, as a lender, loses a nickel. So that when we invest $100,000 in a small business, and that small business goes down the tube, we lose $100,000. That makes us very different from SBA's lending program which is 90-percent guaranteed.

We might walk away from a $10,000 loss; we will never walk away from $100,000 without giving it a hell of a try. That is one of the things that is good.

The second part of the design that is good is the long-term borrowing that we can get from SBA. It increases our return on investment. We can look at businesses with less of an explosive growth potential, the more mundane, the hurdle rate may be 20 percent growth a year instead of 35 percent that a venture capitalist might look at.

These are the design factors. SBA keeps its mitts out of our investment decision. We decide in whom we should invest; we monitor those investments; we decide when to get out. So it is private sector, another bit of genius in designing the program, I believe.

For you people in the Congress, the fact that for every dollar the Federal Government spends on the SBIC program, it gets $110 back in revenues seems to me to be something that is worth applauding, both from our side of the table and from your side.

Mr. BRITT. What is not working? What are the parts of it that are not working?

Mr. STULTS. It can work better. I think it is all working pretty well. Our relationship with SBA as a regulator is somewhat one of creative tension. That is a nice way of saying that we sometimes get in fights with them, but——

[Laughter.]

Mr. STULTS [continuing]. Nonetheless, we are shooting at the same goals so that we are not at loggerheads in that way. We are trying to fine tune the regulatory design, and that works well.

The worst problem is when SBA, to make loans available to us, has to get authorization from the Congress each year. That has been tough the last few years. Authorizations have been on a continuing appropriation basis, rather than on new authorization bills. I make a big pitch that you get your SBA authorization bill through this year. We can put out about $100 million more the rest of this year and in fiscal year 1984.

Mr. BRITT. Are funding levels adequate?

Mr. STULTS. No, they are not, sir. That is why we need the extra $90 million that your committee and the Senate committee have both approved.

Mr. BRITT. Thank you, Mr. Chairman.

Mr. NOWAK. Thank you, Mr. Britt.

I want to just make a last comment here that your testimony certainly makes a case. I think you do not emphasize the management advice part of your successes. I think that plays an important role and really is perhaps an addition or supplement to what Mr. Stults just mentioned. The daily contact, and perhaps the broader overview that an SBIC and the people that are running them, from the executive directors down to the analysts, I think makes a vast difference in the success or failure of many of the businesses that they come in contact with.

Some of course, they never invest in, but they do bring advice and an approach that enables that businessman, whether or not the investment is made, to stay afloat by finding them different vehicles to participate in.

So I think that management service is greatly underestimated and I think the personal kind of involvement when investment is made is really in many cases the difference between success and what may be complete failure.

We are going to look at these incentives that we have and hopefully some of these will get through as we look at the new incentives through the Ways and Means Committee because it is an area that I think is going to be important if we are to keep this economic recovery going.

I want to again thank the witnesses for taking their time and coming before the committee to express the successes they have had and hopefully there will be more of that to come.

Thank you very, very much for attending.

Mr. VANDERGRIFF. Mr. Chairman, could I just make this one comment to Mr. Campos?

Mr. NOWAK. Yes, Mr. Vandergriff. Sure.

Mr. VANDERGRIFF. I am sorry about the circumstances under which you came to our country, but I surely am proud you are here.

Mr. CAMPOS. Thank you, sir.

Mr. NOWAK. Thank you.

Our last two witnesses we will have up as a panel as they are closely associated. The American Association of MESBIC's and we have representing that organization Patrick Owen Burns, who is the president of the Minority Equity Capital Co., Inc., of New York City. He is chairman of the American MESBIC Legislative Committee and a member of its board of directors.

Also, we want to invite Mr. James R. Swartz, the National Venture Capital Association. Mr. Swartz is a general partner in Adler and Co., a private venture capital firm in New York City and Palo Alto, Calif. He previously served as vice president of Citicorp Venture Capital.

Gentlemen, we welcome you both here, and Mr. Burns, if you would like to start your testimony.

PANEL CONSISTING OF PATRICK OWEN BURNS; AND JAMES R. SWARTZ

TESTIMONY OF PATRICK OWEN BURNS, PRESIDENT, MINORITY EQUITY CAPITAL CO., INC., AND LEGISLATIVE CHAIRPERSON, AMERICAN ASSOCIATION OF MINORITY ENTERPRISE SMALL BUSINESS INVESTMENT COMPANIES

Mr. BURNS. Thank you, Mr. Chairman, members of the committee.

The American Association of MESBIC's has submitted a statement which I will not read, but will summarize.

Mr. NOWAK. Without objection, that whole statement will be made part of the record.

Mr. BURNS. Thank you. I appreciate the invitation on behalf of the association to make some brief comments to you and your colleagues with regard to pending legislation looking to create incentives for capital accumulation and infusion into small business.

I come in two capacities: One as president of Minority Equity Capital Co., which is a New York-based MESBIC that has a special-

purpose SBIC investing in minority-owned businesses and businesses owned by Vietnam era veterans.

Ironically, or interestingly enough, our largest shareholder is Citicorp Venture Capital. Our other shareholders include Metropolitan Life, the Episcopal Church, IBM, a nonprofit organization, and an individual. We have $2.5 million of private capital and presently have slightly in excess of $2.5 million of SBA leverage which we have put to work.

I am also appearing as legislative chairman of the American Association of MESBIC's, Legislative Committee. The AAMESBIC represents 127 licensed MESBIC's, many of whom are also members of NASBIC, representing $121 million of private capital, $165 million of public leverage.

Just as a sidenote, without attempting to beat the statistics too heavily, although what you have heard to date in terms of investment activity from the SBIC sector is, in fact, quite substantial, you will hear more from the venture capital community.

Although we are a smaller part of the universe, our companies did invest some $47 million last year in some 700 businesses involving some 7,500 jobs. Not an absolutely enormous number, but in each instance, a vital impact on the jobs affected.

I am also coming with a slightly somewhat different hat, and that is I am representing the American Association of MESBIC's as a member of the SEC task force on Government and Public and Private Initiates in Capital Formation for Small Businesses. I participated 2 weeks ago in 2 days of hearings in Washington.

The proposals in H.R. 2543, the principal subject of today's discussions, are absolutely on target, in my judgment and in the association's judgment, on a number of the areas that were cited last year in the SEC capital forum, and are being repeated again this year, although the encouraging note being that these pieces of legislation here and in the Senate have, in fact, been introduced, and that it may, in fact, now be possible to see some precise initiatives being enacted into legislation to encourage higher risk investment in smaller businesses.

One point that I would like to stress is that, as became clear in the SEC forum, and as is absolutely clear in the universe of minority-owned businesses most of our companies deal with, that there is a difference between small, small business and not-quite-so-small, small business.

The capital needs of those two segments of the overall small business community, while they track in parallel paths, are not absolutely identical. So that initiatives that would encourage investment in smaller small business may not be as important for businesses that have substantial upside potential, but may be absolutely critical for neighborhood-oriented businesses, smaller manufacturing concerns that are never going to be public companies, companies that are stabilizing factors in a variety of communities across the country.

To that end, we feel that the provisions of H.R. 2543, which I discuss in greater detail in the statement which I have submitted, I think add individually and cumulatively, important and potentially important incentives for investment on a capital appreciation side,

for instance, the reduction of the capital gains tax, both for individuals and for corporations.

In that regard, however, we would join in the NASBIC comments as to tracking the incentives for both individuals and corporations, reduced capital gains tax. We feel the proposed reduction of the corporate tax level is critical for permitting small businesses to better shepherd their resources, stabilize their own growth and development. I do not think there is anybody who has been before you today or any other day who is not familiar with situations where small businesses spend an inordinate amount of time trying to devise tax-avoidance programs simply because the cash is not available frequently to pay the taxes.

I think that a realistic look at the operations of smaller small businesses and the impact of the present Tax Code, both through the retention of capital in that company, the forcing of the company out into the borrowing community in a terribly uncertain environment, and in recent years, terribly expensive, has had a negative effect on the expansion and stability of small businesses.

The thing that I would like to stress very briefly that we are most enthusiastic about are the proposals for the tax credit for investment in both intermediaries such as SBIC's and MESBIC's, small business development corporations, as well as directly into the small businesses themselves, and also the proposed capital gains rollover.

The American Association of MESBIC's has testified before your subcommittee, Mr. Chairman, and others in the past in favor of those proposals and we are excited to see that they have been included in the bill.

We think they offer the potential for important inducements. I am not saying they are going to be overwhelming in every case, or even in all cases. We think that they can offer important inducements for individual and corporate investors to dedicate a portion of their investment reserves and resources in a focused way on behalf of the creation and expansion of small businesses.

I would share Mr. Pratt's comments that tax incentives that simply encourage the throwing away of money is economically useless, but I believe that what has been proposed here is a reasoned proposal to encourage a reasoned look at investment opportunity and to encourage the overcoming of the last hurdle to resistance of investing in smaller businesses, sometimes of limited upside potential.

We believe that these two provisions can be extremely beneficial. There are other provisions that we refer to in our testimony of a somewhat similar nature, which I think also need exploration, deserve exploration. There is at least one bill that has been introduced that we permit a deduction when an investment in a small concern is made, as opposed to the present deduction should that investment be lost with appropriate recovery on realization of the investment.

We are familiar with efforts, both in the SBIC industry, and in our own MESBIC industry, to try and generate new sources of seed capital. One of our members, Control Data, is exploring on a nationwide basis the creation of a seed capital fund that could serve the purpose of patient capital for smaller businesses of potentially

limited upside potential, but with still desperate need for patient capital during the early stages of creation and expansion.

I think all of these initiatives and incentives are very important for focused encouragement of the American small business community. We support them wholeheartedly.

[Mr. Burns' prepared statement follows:]

PREPARED STATEMENT OF PATRICK OWEN BURNS, PRESIDENT, MINORITY EQUITY CAPITAL CO., INC., AND LEGISLATIVE CHAIRPERSON, AMERICAN ASSOCIATION OF MINORITY ENTERPRISE SMALL BUSINESS INVESTMENT COMPANIES

Good morning Mr. Chairman and members of the Subcommittee. My name is Patrick Owen Burns and I am president of Minority Equity Capital Company, Inc. (MECCO) in New York. Organized in 1971, MECCO presently has $2.6 million of private capital and has invested over $5 million in minority enterprises. In addition, MECCO's venture investments directly or in conjunction with other MESBICs triggered or served as the basis for over $50 million of additional capital, frequently for expansion. Our portfolio companies range from publishers, including Essence, to radio and television stations in a number of states including Tennessee, New York, Missouri, Pennsylvania, Georgia and Indiana, to manufacturing firms based in plants in Connecticut, Texas, New York and Vermont, serving a nationwide customer network to distribution and retail chains as well as construction firms.

As board member and legislative chairman of the American Association of Minority Enterprise Small Business Investment Companies (AAMESBIC), I am here today to represent an industry of over 130 investment companies across the country.

I am sure by now that the subcommittee members are familiar with the origin and purposes of the MESBIC industry, but I would like to take a little time to share with you some of the 1982 investment activity statistics that the Small Business Administration recently published concerning the MESBIC industry.

By the end of 1982, there were 127 MESBICs with total private capital of $121 million and total SBA leverage of $165 million, for a total capital figure of over $286 million. During 1982, MESBICs invested $47 million in 629 small businesses. In addition, those small businesses created or maintained approximately 7,500 jobs.

In my various duties connected with MECCO in New York and the American Association of MESBICs in Washington, I often feel like the wearer of many hats. Recently, however, I had the pleasure of donning a new hat which I feel is particularly relevant to these hearings today. I represent AAMESBIC on the Securities and Exchange Commission's Executive Board for Small Business Capital Formation. Two weeks ago in Washington, D.C., the Board conducted its first in a series of five forums to be held across the country on small business capital formation.

The Washington forum offered area small business entrepreneurs and organizations the opportunity to testify before the Board and outline the special needs of small businesses, as well as propose possible solutions to those problems. Time and again we listened to witnesses express their concern over the lack of a source of institutional capital for smaller businesses. In many cases, a small business entrepreneur must turn to her family in order to obtain the vital seed capital that more conventional sources are unable or unwilling to provide. However, even this last resort is unavailable to many individuals who simply do not have sufficient family resources from which to draw.

The forums come as a follow-up to a similar SEC effort last year which produced, among other recommendations, the five incentives contained in H.R. 2543, the Small Business Capital Formation Tax Act. These incentives are aimed at addressing many of the needs expressed during the SEC forums.

Section 2 of the Small Business Capital Formation Tax Act reduces the corporate tax rate and increases the surtax exemption from $100,000 to $200,000. We feel the increase in the surtax exemption level is in keeping with the growing costs of running a small business, and would help to offer incentives to a significant number of small businesses not presently covered under the existing levels.

Section 3 contains a capital gains rate reduction for individuals who sell a qualified small business equity investment after having held if for five years. The effective capital gains rate would be reduced from 20 percent to 10 percent for those taxpayers in the 50% tax bracket. In addition to encouraging investments in small businesses, this section provides the important incentive of holding the equity investment for at least five years. This period of time is often recognized as the "incubation" period for small businesses, and gives the business the opportunity to grow into a viable enterprise.

Section 4 provides an alternative corporate capital gains rate on net long term capital gains from the sell of investments in small businesses. This section reduces the alternative tax rate from the presently existing 28 percent to 20 percent.

Section 5 allows a small business whose gross receipts are less than $1.5 million the option of using the cash receipts and disbursements method of accounting. This method would prove much less burdensome and time consuming for the small business entrepreneur.

Sections 6 and 7 of H.R. 2543 contain a capital gains rollover proposal and tax credit. If a taxpayer purchases stock in a qualified small business corporation, she is eligible to receive a 10 percent tax credit on the purchase price. In addition, Section 7 allows a deferral of capital gains on the sale of an asset when proceeds are reinvested (within 12 months) in an equity position of a qualified small business corporation. The 10 percent tax credit and capital gains rollover are provisions the Association has supported several times in other legislation in the past. These initiatives are real efforts toward capital formation in the small business sector. They provide a direct incentive for individuals in a capital surplus position to look at investments in small businesses in addition to other investment opportunities. As capital formation issues coming out of the White House Conference on Small Business, they have received widespread support from the small business community. In addition, the tax credit gained the support of the National Governors' Association in 1981. Our Association has testified numerous times on these initiatives before the House Ways and Means Committee and the Senate and House Small Business Committees, and we are pleased that they are included in H.R. 2543.

In addition to the provisions offered in H.R. 2543, I would like to discuss several additional small business investment incentives. In particular, I would like to refer to H.R. 1444, which was introduced in February of this year. The bill would permit a qualified small business to raise up to $250,000 through the sale of its stock, while allowing individual investors a one-time deduction of up to $15,000 on their tax returns (or $30,000 on a joint return) for stock they purchased in that small business. As the authors of the bill have pointed out, present tax deductions on stock purchased in small businesses are available only if that stock becomes worthless or is sold at a loss. H.R. 1444 provides a positive immediate incentive for investing in small businesses.

The Association has also been studying small business capital formation initiatives that are coming from within the MESBIC industry. In particular, the venture capital arm of Control Data Corporation, which includes a MESBIC and SBIC, has proposed the concept of a national seed capital fund, which would provide leverage investment into a local seed capital fund or direct assistance to small and start-up businesses. Variations on this idea could include a pool of funds available to small businesses with a subsidized interest rate or at a slight discount from the market rate. Investors in the pool could be offered various tax incentives which might include, among other suggestions, 8 percent tax free interest on their investments.

These are just a few of the many proposals that have been surfacing with the increasing awareness of the importance of small business in the American economy. It is truly unfortunate that this awareness has come at a time when the annual increase in small business failures has reached almost 50 percent. However, it is encouraging that Congress and the Administration are working to remedy this situation with incentives such as those contained in H.R. 2543.

I thank you for the opportunity to appear before your subcommittee today, and I would be happy to answer any questions you may have.

Mr. NOWAK. Thank you very much. We will hear from Mr. Swartz at this time and then ask joint questions.

Mr. Swartz.

TESTIMONY OF JAMES R. SWARTZ, GENERAL PARTNER, ADLER & CO.

Mr. SWARTZ. Thank you, Mr. Chairman.

Mr. Chairman, Mr. Vandergriff, my name is James R. Swartz and I am very pleased to be here with you this afternoon.

As you mentioned, I am a general partner of a private firm, Adler and Company, with offices in New York and Palo Alto. Today Adler and Company manages approximately $150 million in

assets, nearly all of which is invested in emerging high-technology businesses.

I have attached as a copy of my testimony a summary of our investment profile and I might point out to you that approximately 80 percent of these investments were made at the startup or early stage of growth, which we define to be $2 million or less in revenue.

I am also a member of the board of directors of the National Venture Capital Association and am appearing today also on behalf of that 144-member organization.

Mr. Chairman, I intend to be brief and to the point this morning, but before proceeding, I would like to make several observations. First, you and Mr. Williams are to be commended for calling these timely and important hearings. With all the publicity that has been generated in the last few months on the subject of venture capital one might be left with the impression that the country is awash with venture capital funds, that too much money is chasing too few deals or too few entrepreneurs, and that many of the projects being financed are really not meritorious.

I want to be quick to point out that any such impressions are in error. Although the climate for venture investing has never been more favorable, there is still a major equity capital shortfall in our economy.

According to the conclusions of the Senate Finance Committee hearings held in January of this year, this shortfall is in the neighborhood of $7 billion. Since the organized venture capital community's total assets are just approaching the $7 billion mark, that Finance Committee's figures suggests that the professionally managed venture firms need to double in asset size before this need is met.

Do I believe the venture capital equity investment process could accommodate an orderly expansion of this magnitude? Affirmatively, yes.

Ten years ago no one would have envisioned that there would be a sufficient number of startups or expanding innovative concerns that could use our funds productively to justify the asset base from which we are currently operating. Most people, including myself, would not have projected that the demand would be up to the current $7 billion to $8 billion supply of venture capital.

Thanks principally to the two-stage reduction in the maximum capital gains tax rate beginning in 1978, entrepreneurship itself has become a growth industry. The current proposals we are seeing are as deserving of consideration as those relatively few projects to which we were exposed in the 1970's.

Speaking for my firm, which is one of the most active early-stage investors in the country, we have not witnessed any noticeable falloff in the caliber of the proposals being submitted. I believe the same holds for the industry at large.

I give credit to the lower capital gains tax as the driving force for this phenomena. If our entrepreneurs and inventors do not believe there is a reasonable prospect of attaining funding for their ideas, or fledgling business, they will not bother to seek out such assistance. It is not much different than the structurally unemployed. After looking for a job for many months, an unemployed person

ceases to become a statistic in that he or she is not counted as being among the unemployed, even though they have not found a job. Likewise, unless a businessman perceives that an entrepreneurial job exists, he often does not view himself as an entrepreneur.

As to the charge that we are financing situations that do not deserve support, let me suggest that such an opinion is subjective at best and may even reflect a bit of sour grapes.

Thank God we still have a system which permits the individual freedom of choice to make investment decisions. After all, how many people less than a decade ago foresaw the need for guaranteed overnight package/letter delivery service? Fred Smith did and he in turn convinced a group of venture capitalists that the idea had merit. I was at Citicorp Venture Capital, one of the prime backers of his idea, when the initial decisions were being deliberated. I can tell you very clearly the investment decision was a courageous individual decision by one of my associates, not a bureaucratic one. As a result of his and other similar decisions, Federal Express was born and in so doing, has revolutionized how this country transports critical communications and goods.

Another case in point: I am a director of a company, Ungermann-Bass, scheduled to go public this week. It has been a huge success already by any standards and yet, because of the far-reaching concepts of the original plan, only three venture firms had the courage to originally back Ralph Ungermann and his ideas, although the project had been exposed to at least 10 times that number.

In conclusion of my observations, Mr. Chairman, I would suggest that we are today financing people whom many would think unworthy, but after the passage of time, will be hailed as imaginative, bold business leaders.

These remarks are meant to lay the basis for five recommendations that fall within the purview of this subcommittee's jurisdiction. I will be quick to say that I suspect many of these proposals are not new, as many venture capital spokespersons have appeared before you previously.

Nevertheless, members of my association feel strongly that each of these proposals is as meritorious today as it was earlier.

The first issue deals with a regulatory matter with which you are intimately familiar, and that is the proposed debt equity section 385 regulation. We believe Treasury has seen the light and will not publish a fourth proposed draft to the regulations. Indeed, the Department has indicated that they will either propose guidelines and factors, which both IRS and the taxpayer can use in judging factual questions, or abandon all regulatory efforts. Either solution is fine with us.

Next, we would urge that the Congress—with respect to capital gains reform—(a) Reduce the maximum capital corporate gains rate to 20 percent; (b) increase the exclusion to 80 percent for gains realized on original issue securities held for at least 5 years; and (c) authorize a deferred payment of capital gains taxes if the proceeds or liquidated capital asset are "rolled over" into a small business concern.

These proposals are all supported with additional documentation which is attached.

I would like to deviate from my prepared statement and just comment on one point having to do with the size standards included in your House and the Senate bills. I think it is very important that the size standards which are eventually implemented be sufficiently broad to include many of the startups which are being done in the country today. It is not unusual to have startups which aggregate $5, $10, even $15 million of equity capital in very important projects. I would hate to see some of these measures implemented and have the size standards be so restrictive as to end up with a structural disincentive toward doing large projects.

The other major recommendation that we have is that we urge the elimination of the restriction preventing the kinds of companies we finance from granting key employees in any 1 year incentive stock options or ISO's having a value in excess of $100,000. In addition, we would hope that the Congress would see the wisdom in eliminating ISO's as a tax preference item.

Both features are, again, spelled out in detail in our attachment.

As to the other proposals in your bill, neither the NVCA board nor its executive committee has had an opportunity to examine them and, therefore, take an official position as to their merits.

Having said that, however, I want to emphasize that we are generally supportive of any provisions that will spur the capital formation process for small businesses. We must be constantly aware that the small business sector is a heterogeneous community and thus, by definition, has diverse funding needs.

All of the proposals I have specifically endorsed today go to the heart of the venture capital financing process, but by no means should anyone be left with the impression that the equity needs of small business would be satisfied if these proposals were adopted. They would not.

We help roughly only 1 percent of those concerns which submit proposals. Many of the other provisions in your bill, as well as other creative tax incentives offered in other private and public forums, would assist many of those businesses which do not obtain our assistance yet are nevertheless deserving of some financial aid.

Mr. Chairman, thank you for affording us the opportunity to appear today.

[Mr. Swartz' prepared statement, with attachments, follows:]

PREPARED STATEMENT OF JAMES R. SWARTZ, GENERAL PARTNER, ADLER & CO.

My name is James R. Swartz, a General Partner in Adler and Company, a private venture capital firm with offices in New York City and Palo Alto, California. Adler and Company originated in early 1978 when I joined Frederick R. Adler to continue and expand the venture capital activity which he had carried on since 1968. Previously, I had been a Vice President of Citicorp Venture Capital, one of our country's largest institutional venture capital firms.

Today, Adler and Company manages in excess of $150 million in assets, nearly all of which are invested in emerging high technology companies. I call to your attention the attached Summary of Investments which profiles our firm's portfolio. Of note is the fact that approximately eighty percent of these investments were made at start-up or an early stage of growth.

I am also a Member of the Board of Directors of the National Venture Capital Association and am appearing today on behalf of that 144 member firm organization.

Mr. Chairman, I intend to be brief and to the point this morning, but before proceeding, I would like to make several observations. First, you and Mr. Williams are to be commended for calling these timely and important hearings. With all the publicity that has been generated in the last few months on the subject of venture capital, one might be left with the impression that the country is awash with venture capital funds, that too much money is chasing too few entrepreneurs or that some of the projects being financed are really not meritorious. I want to be quick to point out that any such impressions are in error for, although the climate for venture investing has never been more favorable, there is still a major equity capital short-fall in our economy.

According to the conclusions of the Senate Finance Committee hearings held in January of this year, this short-fall is in the neighborhood of seven billion dollars. Since the organized venture capital community's total assets are just approaching the seven billion dollar mark, that Finance Committee figure suggests that the professionally managed venture firms need to double in asset size before they would be meeting the demand for funds by new and growing small business concerns.

Do I believe the venture capital equity investment process could accommodate an orderly expansion of this magnitude? Affirmatively, yes. Ten years ago, no one envisioned that there would be a sufficient number of start-ups or expanding, innovative concerns that could use our funds productively to justify the asset base from which we are now collectively operating. Most people, including myself, would not have projected that the demand would be up to the current seven to eight billion supply of venture capital.

Thanks principally to the two-staged reduction in the maximum capital gains tax rate beginning in 1978, entrepreneurship itself has become a growth industry. The current proposals we are seeing are as deserving of consideration as those relatively few projects to which we were exposed in the 1970's. Speaking for my firm, which is one of the most active early stage investors in the country, we have not witnessed any noticeable fall-off in the caliber of the proposals being submitted. I believe the same holds for the industry at large.

I give credit to the lower capital gains tax as the driving force behind this phenomenon, for if our entrepreneurs and inventors do not believe there is a reasonable prospect of obtaining funding for their ideas or fledgling business, they will not bother to seek out such assistance. It is not much different than the structurally unemployed. After looking for a job for many months, an unemployed person ceases to become a statistic in that he or she is not counted as being among the "unemployed" even though they have not found a job. Likewise, unless a businessman perceives that entrepreneurial jobs exist, he often does not view himself as an entrepreneur.

As to the charge that we are financing situations that do not deserve support, let me suggest that such an opinion is subjective at best and might even reflect a bit of sour grapes on someone's part. Thank God, we still have a system which permits the individual freedom of choice to make investment decisions. After all, how many people less than a decade ago foresaw the need for a guaranteed overnight package/letter delivery service? Fred Smith did and he, in turn, convinced a group of venture capitalists that the idea had merit. I was at Citicorp Venture Capital—one of the prime backers of Fred Smith's idea—when the initial decisions were being deliberated. I can tell you very clearly, the investment decision, was a courageous individual decision, by one of my associates, not a bureaucratic one. As a result of his and other similar decisions, Federal Express was born and in so doing, it has revolutionized how this country transports critical communications and goods. Another case in point. I am a Director of a Company—Ungermann-Bass—scheduled to go public in two weeks. It has been a huge success already by any standards. And yet, because of the far reaching concepts of the Business Plan, only three venture firms had the courage originally to back Ralph Ungermann and his idea, although the project had been exposed to at least ten times that number. In conclusion of my observations, Mr. Chairman, I would suggest that we are today financing people whom many would think unworthy, but after the passage of time will be hailed as imaginative, bold business leaders.

These remarks are meant to lay the basis for five recommendations that fall within the purview of this subcommittee's jurisdiction. I will be quick to say that I suspect some of these proposals are not new to this committee, as many venture capital spokespersons have appeared before you previously. Nevertheless, members of the National Venture Capital Association feel strongly that each one of these proposals is as meritorious today as it was earlier.

The first issue deals with a regulatory matter with which you are intimately familiar, Mr. Chairman, and that is the proposed debt/equity Section 385 regulations.

We believe Treasury has seen the light and will not publish a fourth proposed draft of the regulations. Instead, Mr. Chapoton has indicated that the Department will either propose "guidelines" and "factors" which both the IRS and the taxpayer can use in judging factual questions concerning this issue, or abandon all regulatory efforts and instead continue to rely upon case law. Either solution is fine with us, but under no circumstance do we want Treasury to adopt regulations bearing any resemblance to the first three proposed drafts. I will not take the time to reiterate our objections to those drafts as we have spoken to this issue at length at hearings you held during the 97th Congress.

Next, we would urge that the Congress:

(a) Reduce the maximum corporate capital gains rate to 20 percent;

(b) Increase the exclusion to 80 percent for gains realized on original issue securities held for at least five years, and

(c) Authorize a deferred payment of capital gains taxes if the proceeds or a liquidated capital asset are "rolled over" into a small business concern.

Explanatory information pertaining to these and the other Association recommendations are addressed in detail in the attached document.

Suffice it to say, Mr. Chairman, we wholeheartedly endorse and support Section (3) of your bill, H.R. 2543, which speaks to the 80 percent exclusion, five-year holding period proposal or point (b) just mentioned in my prepared remarks. Similarly, we embrace your Section (4) which would create corporate capital gains tax parity with the individual rate of 20 percent and corresponds to our point (a). And, we endorse your Section (7) which provides for a small business capital gain rollover and is the same as our point (c) of our capital gains reform proposal.

Our other major recommendation is that we urge the elimination of the restriction preventing the kinds of companies we finance from granting key employees in any one year incentive stock options (ISO's) having a value in excess of $100,000. In addition, we would hope that the Congress would see the wisdom in eliminating ISO's as a tax preference item. Both features are again spelled out in some detail in the attachment.

As to the other proposals in your bill, neither the NVCA Board nor its Executive Committee has had an opportunity to examine them and therefore take an official position as to their merits.

Having said that, however, I want to emphasize that we are generally supportive of any provisions that will spur the capital formation process for smaller businesses. We must be constantly aware that the small business sector is a heterogeneous community and thus by definition has diverse funding needs. All of the proposals I have specifically endorsed today go to the heart of the venture capital financing process, but by no means should anyone be left with the impression that the equity needs of small business would be satisfied if these proposals were adopted. They would not.

We help roughly only one percent of those concerns who submit proposals. Many of the other provisions in your bill, as well as other creative tax incentives offered in other private and public forums would assist many of those businesses who do not obtain our assistance, but are nevertheless deserving of some type of financial aid.

Mr. Chairman, thank you for affording us this opportunity to appear today.

SUMMARY OF INVESTMENTS

	Number of companies	Percent
Industry:		
Health/life sciences	16	30
Communications	5	9
Semiconductors	7	13
Automation equipment	11	20
Data processing	15	28
Total	54	100
Role: [1]		
Initiating	34	63
Active	9	17
Passive	11	20
Total	54	100

SUMMARY OF INVESTMENTS—Continued

	Number of companies	Percent
Stage: [2]		
Start-up	26	48
Early stage	18	33
Later stage	10	19
Total	54	100
Locations:		
East coast	22	41
West coast	21	39
Other	11	20
Total	54	100

[1] Role: "Initiating" refers to a catalytic role in organizing the company and in its internal affairs from time to time. "Active" characterizes the role of an active company director influential in the company's affairs. "Passive" refers to a situation we either cannot influence or are relying on other investors/directors to represent us. In some cases, the categorization of a given company changes due to circumstances.
[2] Stage: The stage refers to the status of the company when one or more of Adler & Company's partners first became involved with the financing of the company. An "Early Stage" company typically is one or two years old and is shipping less than $2 million of product annually. "Later stage" companies usually have more than $10 million in annual sales.

Proposed Treasury Department 385 Regulations

EXECUTIVE SUMMARY

For several years the Treasury department has been working on regulations setting out "guidelines" and "factors" that were to be taken into consideration when trying to differentiate between corporate debt and equity.

The fourth and final draft is about to be published.

The venture capital industry and the entire small business community vigorously oppose these ominous and unnecessary regulations and recommend that section 385 of the Internal Revenue Code, which authorizes Treasury to adopt regulations defining the terms "debt" and "equity" for tax purposes, be repealed.

As part of an omnibus tax bill enacted in 1969, Congress authorized Treasury to publish regulations setting out "guidelines" and "factors" that were to be taken into consideration when trying to differentiate between corporate debt and equity. After 11 years, Treasury finally published a proposed set of regulations in 1980 that, if adopted, would have severely disrupted the capital formation process for young, growing businesses. The subsequent publication of two more revised, proposed drafts has failed to make the regulations any more workable or understandable. In spite of near unanimous criticism from the venture capital and small business sectors following the publication of each proposal, Treasury has continued to adhere to needlessly complex, incomprehensible and arbitrary rules, sub-rules, definitions, exceptions, safe harbors, and rules of convenience. In fact, no single provision can be understood without both reading and analyzing literally dozens of other definitions and exceptions contained within the 40 days of the latest proposed Section 385 regulations as well as having to refer to multiple other sections of the Internal Revenue Code.

This irrational administrative process should be stopped. Congress should declare the attempted regulatory effort a failure and repeal section 385 of the code. The taxpayer and IRS should thus continue to rely upon case law which has proven satisfactory to both the government and the private small business community for over 50 years.

INCENTIVE STOCK OPTIONS—EXECUTIVE SUMMARY

In 1975, Congress changed the tax treatment of qualified stock options which all but eliminated them as a significant incentive to attract management personnel to new emerging companies.

The tax law of 1981 (ERTA) greatly improved the situation but did impose a $100,000.00 ceiling limitation for incentive stock options (ISOs). The tax law of 1982 further weakened the attractiveness of ISOs by saying that the "paper profit" or difference between the fair market value and the option price at the time of exer-

cise will be included as a preference item when computing the alternative minimum taxable income of a taxpayer.

The National Venture Capital Association recommends eliminating the $100,000.00 ceiling limitation for incentive stock options for companies that are less than ten years old; and eliminating ISOs as a tax preference item.

INCENTIVE STOCK OPTIONS

Small companies have traditionally had difficulty attracting experienced, enterprising management personnel. Young businesses by definition do not offer the same kind of job security as do larger, established corporations. Further, growing concerns are traditionally cash starved, thereby making it difficult for them to offer competitive salaries.

For many years, the usual means of compensating for these deficiencies was to offer key employees a "piece of the action" in the company, usually in the form of stock options. If the company became a roaring success in the future, management personnel would be richly rewarded when they sold the stock they acquired through a qualified stock option plan.

Regrettably, in 1975 the Congress prohibited the further granting of qualified stock options. The utilization of options by venture capital portfolio companies immediately became unattractive as an executive was required to pay ordinary earned income tax on the difference between the option price and the market price at the date the option was exercised. Payment of taxes on this "paper profit" created an onerous burden as no cash was generated by the transaction from which to pay the tax. Further, the price of the security once acquired would sometimes decline precipitously. The taxpayer was thus sometimes left in the incongruous situation of paying ordinary income on a transaction that ultimately resulted in a realized loss to the taxpayer when he sold the securities.

On the other hand, the employer was entitled to a corresponding expense deduction equal to the amount included in the employee income which, when offset against the "gain" of the employee, invariably resulted in a net loss to Treasury.

This aggravating situation was rectified by the Economic Recovery Tax Act of 1981 (ERTA) as it eliminated any tax consequence at the time an incentive stock option (ISO) was granted or exercised. Today, an employee is entitled to long term capital gains tax treatment when the securities are sold, provided the option:

(1) Price equals or exceeds the fair market price at the date of grant;
(2) Is granted under a plan approved by the stockholders;
(3) Is granted within ten years of the date of the plan's approval;
(4) Is exercisable only within ten years of the date of grant, and,
(5) Is non-transferrable except upon death or disability of the holder.

Further, the employee is ineligible for such option if he directly or indirectly owns more than ten percent of the company's voting securities. This limitation is waived if the option price is at least 110 percent of the fair market value at the time of the grant and is not exercisable more than five years after the date of grant. In addition, the plan must place an annual limit on the amount of stock that can be granted to an employee, but in no event can the fair market value of the option stock exceed $100,000.00 plus any unused "carryover" amounts from prior years.

Operating under this artificially low ceiling causes a company to lose the flexibility needed to attract and retain skilled and experienced management talent. This is particularly the case when the option price per share has a high dollar value, for it takes a much greater number of securities to generate the same rate of return than would be required if the price per share was much lower.

This problem can and should be remedied by eliminating the annual $100,000.00 ceiling for companies of ten years of age or less. We understand that complete removal of the ceiling for all corporations regardless of age might cause an unacceptable revenue loss and would not necessarily create an economic benefit for the large, mature corporations whose stock is listed on a national exchange. However, limiting the removal to younger companies would serve to induce increased productivity and innovation.

One year after authorizing ISOs, Congress enacted the Tax Equity and Fiscal Responsibility Act (TEFRA) which seriously diminished the appeal of ISOs. Henceforth, the "paper profit", or difference between the fair market value and the option price at the time of exercise, will be included as a preference item when computing the alternative minimum taxable income of a taxpayer. Although not as pernicious as the pre-1981 non-qualified option problem where all "paper profits" were automatically subject to as much as a 50 percent tax, the potential liability of paying a

20 percent tax on ISO unrealized paper profits nevertheless makes ISOs much less attractive than originally intended in the 1981 legislation.

This second problem can easily be resolved by simply removing the punitive preference item classification.

CAPITAL GAINS TAX—EXECUTIVE SUMMARY

The data obtained from the venture capital industry by Venture Economics, a subsidiary of the Capital Publishing Corporation, clearly shows a direct correlation between the reduction of the rate of tax on capital gains and the growing availability of funds to the venture capital industry for investment in new emerging companies.

The capital gains rate reduction of 1978 and 1981 and the subsequent increase in the differential between the tax on capital gains and the tax on personal service income dramatically encouraged investment funds for the development of new small businesses.

The National Venture Capital Association recommends that since the August 1982 General Accounting Office Study shows that venture investment has an extremely positive impact on the economy that additional capital gains reforms be instituted as follows:

(a) Reduce the maximum corporate capital gains rate to 20 percent;

(b) Increase the exclusion to 80 percent for gains realized on original issue securities held for at least five years, and

(c) Authorize a deferred payment of capital gains taxes if the proceeds of a liquidated capital asset are "rolled over" into a small business concern.

CAPITAL GAINS TAX

Beginning in 1969, Congress gradually increased the long-term capital gains tax rate so that by 1977 the maximum rate stood at just over 49 percent. In 1978, that trend was reversed as the rate was reduced to 28 percent. A further reduction to 20 percent was enacted in 1981. During the three years preceding the initial 1978 reduction, venture capital firms only invested $1.8 billion in new business ventures. In the three years following 1977, $5.4 billion was invested by the venture industry in the innovative, independent business sector which represents a 300 percent increase over the earlier period. This increased investment activity was all made possible by a corresponding infusion of new capital into professionally managed venture capital firms.

The following table shows the yearly funding and disbursement levels.

VENTURE CAPITAL INDUSTRY ESTIMATED FUNDING AND DISBURSEMENTS

[In millions of dollars]

Year	New private capital committed to venture capital firms	Estimated disbursements to portfolio companies	Public underwritings of companies with a net worth of $5 million or less	
			Number	Amount
1982 estimate	(1)	(2)	(112)	$617
1981	$1,300	$1,400	(306)	1,760
1980	900	1,000	(135)	822
1979	319	1,000	(46)	183
1978	570	550	(21)	129
Capital gains tax decrease:				
1977	39	400	(22)	75
1976	50	300	(29)	145
1975	10	250	(4)	16
1974	57	350	(9)	16
1973	62	425	(409)	896
1971	95	410	(248)	551
1970	97	350	(198)	375
Capital gains tax increase: 1969	171	450	(698)	1,367

[1] $1,700 to $1,800.
[2] Up somewhat.

After the 1978 legislative action, there was a commensurate increase in initial public offerings which is an important ingredient in creating a favorable climate for venture investing. The chart below illustrates the total dollar volume for all companies going public for the first time regardless of net worth of the corporation.

New capital raised through initial public stock offerings

	Millions
1975	$265
1976	234
1977	153
1978	249
1979	506
1980	1,397
1981	3,215
1982	1,445

It is thus obvious why both government and private sector analysts credit the two rate reductions with increased individual investment and risk-taking, stimulating entrepreneurial activity, accelerating the mobility of capital, and fostering new productivity enhancing investment.

And best of all, these achievements were realized at no net cost to the Treasury. In fact, total capital gains tax revenue increased from $9.3 billion in 1978 to $11.2 billion in 1979, and $11.9 billion in 1980. The government realized additional "windfall profits" in 1982 as the "unlocking" or selling of seasoned mature investments continued to occur.

The benefit of a capital gains cut was recently underscored by the Chairman of the Council of Economic Advisors (CEA) when he stated the "amount of capital gains reported on tax returns increased dramatically in the years after the tax rate on capital gains was reduced. He went on to say the CEA analysis "shows that reported net long-term gains less net long-term losses rose from $40.4 billion in 1977 to $63.8 billion in 1979, up 111 percent."

But, there is still a problem. Even after a three-fold increase in the amount of new capital being made available to young, growing small businesses, recent congressional hearings revealed that there is an estimated annual equity capital shortfall of between $6 and $7 billion.

To increase further risk taking and thereby divert more dollars to start-ups and young, high-growth, job producing concerns, three types of incentives should be enacted.

One: In 1981 and 1982 approximately 20 percent of all new capital committed to venture capital firms was corporate affiliated. That figure represents a sharp fall-off from the better than 30 percent contributed by corporations in the previous two year period between 1978 and 1980. One of the key reasons is that Economic Recovery Tax Act in 1981 failed to lower the maximum long-term corporate capital gain tax rate from 28 percent to 20 percent as it did for individuals. The simple solution to this disparity is to place the corporate investor on par with the individual taxpayer and make the maximum applicable rate 20 percent for both.

Two: A distinction needs to be made between the commonly thought of long-term investment of between six and twelve months, and the very long-term financing that is held for five years or longer. Such a distinction is needed for it would more accurately reflect the long-term nature and recognize the higher level of risk associated with the typical venture investment. This illiquid, very long-term capital commitment should be rewarded by increasing the exclusion to 80 percent for those gains realized on the sale of securities purchased directly from the corporation, not in the secondary market. The net effect is that the maximum capital gain rate would be reduced to ten percent.

Three: Still a further incentive should be considered. If the realized gains of a capital investment were reinvested in or "rolled over" into a small business concern within an 18 to 24 month period, the payment of the applicable capital gains taxes could be deferred until the taxpayer sold the small business securities and did not "roll over" the proceeds into still another small company.

An August 1982 GAO study on the venture capital industry provides ample evidence of the benefits that would be multiplied if these capital gains related provisions were enacted. GAO studies 1,332 emerging businesses financed between 1969 and 1977, a period where U.S. tax policies are described by GAO as having "damaging ripple effects on business creation and risk taking." The study concludes: The experiences of 1332 companies that were started with venture backing during the 1970's demonstrate benefits to the nation's economy and productivity that are dis-

proportionately large when compared with the amounts of capital invested. For example, with $209 million invested to create 72 of these firms, their combined sales in 1979 alone totalled $6 billion. Growth in annual sales averaged 33 percent a year and, in the process, these firms created an estimated 130,000 jobs, over $100 million in corporate tax revenues, $350 million in employee tax revenues, and $900 million in export sales.

If $209 million can produce this type of impressive and disproportionately beneficial results, imagine what would happen if between $10 and $20 billion a year were made available as a result of enactment of these three incentives.

Mr. NOWAK. Thank you very much, Mr. Swartz, for your testimony. I think you gave the percentage of 1 percent of those companies that come to your attention that you actually participate in or fund. The other 99 percent, I assume, have one or other problems or perhaps structures that are not attractive to you.

What happens to those 99 percent?

Mr. SWARTZ. That really goes to the heart of my testimony, Mr. Chairman. The projects not financed by any one firm fall into two categories. One, I think the fact that a Fred Smith or a Ralph Ungermann or whomever, was turned down at one place, but managed to get his capital at another professional firm speaks to the individual investment decision process.

I think that the industry and the country, and what we are trying to accomplish here, are all benefited greatly by having a greater variety of independent decisionmakers out there.

So the answer to your question of what happens to the other 99 percent, in very many cases, they end up getting financed but by someone who might be deemed to be a competitor of mine, which is very good, and it keeps me healthy. When I see that project being a success 5 years from now, I scratch my head and say, why was I not smart enough to do that one?

So a large percentage of them, in fact, are able to get financed from other professional venture firms and so, therefore, I think whatever we can do to encourage the creation of more professional firms in the business is to be looked upon favorably.

There are also the second category of projects which, for whatever reason, are not financed at all by the professional venture capital community or the professional SBIC community. There are certain companies that lend themselves more to being financed by SBIC's than by pure venture capital firms.

One way or another, the determined entrepreneur usually gets his money. He does not always get it on the most satisfactory terms. He does not always get it with the best professional help that he could, but usually he will find some way to scrape his project together.

However, providing additional incentives and funds helps him to do it quicker and in a more organized and more professional manner.

Mr. BURNS. Mr. Chairman, may I comment on that also?

Mr. NOWAK. Go ahead.

Mr. BURNS. I think we are seeing an expression of the small small business, big small business program that I alluded to earlier. In the universe of smaller businesses that we deal with, and that our association members deal with, we do not see that very many larger opportunity businesses that have substantial upside

potential to achieve very substantial capital appreciation. We see some, but not a large number.

Those are the kinds of businesses that would be attractive to the venture—and broadly defined—industry, but they are a very small number. The much larger number are those businesses that can grow and expand, but at a rather moderate level.

They need investment capital to achieve that growth or expansion. Many of our portfolio companies a couple of years ago were paying 25-percent interest. Just absolutely impossible for a business—most of the businesses that I am familiar with—to pay 25-percent interest and have any kind of orderly growth planning or even longevity in existence.

The ability to attract patient capital is much diminished, in part because the capital that is in the MESBIC and SBIC industries, even with the leverage advantages, tends also to have a cost to it. There is a need, and I think this was referred to constantly in the SEC forum that I attended, there is a need for some new incentives for patient capital investing that may not have magnificent capital appreciation opportunities.

In our industry, if you cannot attract capital that is looking for moderate upside opportunity, and if you are dependent on bank-related capital, you, in fact, will not get funded. There are a lot of those sound business proposals. I share the view that lots of good entrepreneurs will struggle and find the funds somehow or other, but unfortunately, for the smaller businesses, the minority-owned businesses, there frequently are not the alternative sources of funds. The family and friends source that is so often tapped is not available. Until we break through that barrier, there will be a lot of business units that are sensibly thought through that will just not come into being and/or will not expand.

Mr. NOWAK. Let me pass to Mr. Vandergriff.

Mr. VANDERGRIFF. Thank you, Mr. Chairman.

I am interested in the comments you made, sir, about incentive stock options. You are urging the elimination of the restriction to grant key employees——

Mr. SWARTZ. Urging the elimination of the $100,000 ceiling, yes, sir, and also the inclusion of the differential between the option exercise fair market value as a tax preference item. Those two specific provisions.

Mr. VANDERGRIFF. That is borne out of——

Mr. SWARTZ. Borne out of—may I comment?

Mr. VANDERGRIFF. Are there experiences you would like to comment on, possibly?

Mr. SWARTZ. Yes; I can relate some very specific experiences, Mr. Vandergriff. It really goes to the theme which I heard the chairman speak to in his opening remarks, and that is the focus in this country on the short term.

We have a problem in our industry, too, with focus on short term; we all do. Let me give you an example. Generally speaking, in an early-stage startup, the granting of stock to the key employees is covered well under the $100,000 exclusion because the stock at this point is basically worthless. It has been very easy to fit within that guideline, that ceiling.

However, let's take the example 2, 3, or 4 years down the road when the company maybe is up to $10, $15, $20 million in revenues and it goes public. At that point, we have a very real problem in attracting additional key managers into that business.

Let me give you a very specific example. We have a company which went public approximately 2 weeks ago, Daisy Systems, which somehow got mentioned by the President in an address when he was in California.

That company has approximately 12 million shares outstanding at approximately $25 per share in the public market today, putting a market value on the company of $300 million or something like that. To give someone 100,000 dollars worth of stock in that company is a very, very insignificant interest. So if we are to try to bring in some additional professional managers to help that company continue to grow and build its business, we are severely handicapped.

I might add that that is a company that is, in fact, producing productivity improvement tools for our semiconductor industry and therefore is fulfilling a vital need. We are still not of sufficient size that we can afford to pay very large salaries and other kinds of benefits that the large companies can provide.

The average salary of the senior management of that company is a very small factor of what a comparable executive in a Fortune 500 company would make.

Mr. VANDERGRIFF. OK.

Mr. SWARTZ. So that is the real problem. The problem is our ability to grow these companies after the first couple of years up until they are 5, 10 years old, and are capable of running on their own with other normal compensation patterns at that point.

Mr. VANDERGRIFF. I appreciate that explanation. Mr. Burns, I hope you will keep us informed about this approach of Control Data Corporation, that national seed capital fund.

Mr. BURNS. Yes, sir.

Mr. VANDERGRIFF. It is very exciting.

Mr. BURNS. I think it ties in with a number of things that a variety of industry people, both in the MESBIC industry and in NASBIC, are trying to do, your committee is trying to do, and that is to think of new forms that can be invested, is willing to be invested, or will attract capital to be invested in patient capital, with perhaps less of an opportunity for glory and reward than purely high-technology investing will offer, or can offer, does offer.

I think if we do not come up with those forms, we are going to continue to have a severe cap or strong cap on business expansion and the clumps of smaller business units that are critical to the stability of a variety of all of the communities around the country. The employers of 10 to 30, 5 to 20 employees, providing more local or regional services, goods and services.

Mr. VANDERGRIFF. All right. Thank you for your support of H.R. 2543. I know the chairman is gratified; I am, too.

Mr. NOWAK. Thank you very much, Mr. Vandergriff.

We are trying to put some focus on all of this. Really, I guess we could say the two witnesses before the table have two different types of clientele out there and what we hope to do is put forth a piece of legislation that can make a difference to both of your cli-

ents, and of course, yourselves in looking at these alternatives for investment.

I am still struggling with what this financial deregulation is going to do and what kind of an effect that will have as we go through these next 2 or 3 years when you consider the kind of deficits that are looming and what may happen to interest rates when these impacts start to hit, not this year, but the next year and the following years.

You know, there is still in my mind a great difference between the incentives in the 1981 act we put together to save and invest. I kind of think that when you look at pure savings, there are a lot of different impacts. I certainly do not think today we have enough incentives in the Tax Code for that investing.

Others may argue that point and say, well, the 1981 act gives terrific depreciation and you have got an investment tax credit, but only if you are able to use those things.

If we are going to create the kinds of jobs that I think are going to be necessary because of structural unemployment, we have got to start looking at new incentives and start competing, as other countries have, in this whole area of incentives. We need to make sure that when we talk about building up the business community, it is not going to be done with pure savings.

It is nice to have the IRA's out there, but I wonder if those dollars would not be better off being invested, rather than purely saved. There are going to be some ripple effects of that savings, certainly, and purchasing of some of the Treasury's large notes, but I still do not think that in the small business area, we have done nearly enough.

Although we did get a piece of the Tax Act changes which were beneficial, it still seems to me they are going to be beneficial for those large going concerns. We have not put together a package which would put the types of incentives so that an investment decision is going to be made to put money with an SBIC or to put money into a small business someplace and take the additional risks.

We have not touched on this very much, but, you know, we have got an economy running at a 4-percent inflation rate and you get 12 or 13 percent on your money, and if you want to buy a second mortgage, you can still get 15 or 16 percent without risk. Yet we say, let's compete with all the other countries who are subsidizing, either directly or indirectly, tons of dollars for research and development, especially in the high-technology area.

I just had an experience over in France where I met with some of the embassy people. They just have a tremendous incentive for the new growth companies and high-technology companies in France. They have made that a national priority and they are going to use Federal money in France to subsidize those industries.

Your entrepreneur over here is going to have to compete with that subsidization without the proper tools. Now, we can do it overtly, which is probably not the best way to accomplish it because you have got different decisions, but if we use the Tax Code, at least that opportunity would be out there generally. That is what I hope we are able to accomplish with your participation here today. When we make this record up, I think we will make an

awful lot of sense as we start to focus on this problem and look at an industrial policy. I hope we look at probably the larger area of employment, the small business and the new technical and informational processing that is going to grow.

But we are not going to be able to compete against direct subsidies by a foreign government. I just have the feeling that in some of the so-called competitor countries, they are going to continue to make capital available by whatever means, direct subsidized aid or anything else, so I hope that we can at least have something in our Tax Code to provide an incentive to invest in these types of growth companies.

I want to thank you and again mention that we are going to keep the record open to further fill in any areas that we can to provide the best type of record for the other members of the subcommittee and certainly for the other committees that will be handling some of the other areas that you mentioned here.

We look forward to continuing these hearings and getting more specifics and hopefully getting a new charged-up incentive into this Tax Code, because I think that is certainly where—if we are going to make a difference—it can happen.

Again, thank you for your attendance and we will be calling on you, I am sure, in the future. Thank you very much.

Mr. BURNS. Thank you.

Mr. NOWAK. I might just mention, too, that we are going to incorporate into the hearing a communication from the Walter E. Heller International Corporation Institute for Small Business, a letter which relates to the publication that they have made: "Entrepreneurship and National Policy." We will put this, along with the other statements, in.

[The letter and publication referred to above follow:]

WALTER E. HELLER INTERNATIONAL CORP.,
INSTITUTE FOR SMALL BUSINESS,
Chicago, Ill., June 7, 1983.

Chairman HENRY J. NOWAK,
Subcommittee on Tax, Access to Capital and Business Opportunities, House Small Business Committee, Rayburn House Office Building, Washington, D.C.

DEAR CONGRESSMAN NOWAK: I am taking the liberty of sending you ten copies of Dr. Karl H. Vesper's newly-released monograph entitled, "Entrepreneurship and National Policy", commissioned by this Institute, for the reason that it may complement your June 22 hearings on incentives for start-up and venture capital.

Our request is that you submit this monograph in the record of your hearing.

Respectfully,

HARVEY S. LEDERMAN.

3 ENTREPRENEURSHIP AND NATIONAL POLICY

BY KARL H. VESPER
UNIVERSITY OF WASHINGTON

SPONSOR:
THE GRADUATE SCHOOL OF INDUSTRIAL ADMINISTRATION
CARNEGIE-MELLON UNIVERSITY

HELLER
INSTITUTE FOR
SMALL BUSINESS
POLICY PAPERS

FOREWORD

"Entrepreneurship and National Policy" is the third policy statement published by Walter E. Heller International Corporation's Institute for Small Business and its Policy Study Committee.

This timely monograph is the product of a year's work by Dr. Karl H. Vesper of the University of Washington, under the sponsorship of The Graduate School of Industrial Administration of Carnegie-Mellon University. Its purposes are to broaden and, at the same time, sharpen a reviewer's understanding of entrepreneurial activity by enumerating and elaborating upon its economic, personal and social aspects. It concludes with constructive suggestions for national policy initiatives that would encourage and enable more business start-ups, and calls for an "evolutionary approach" to policymaking – an experimental posture backed by an effective tracking system to help in assessing experiments as time goes on.

The Heller Institute is privileged that Dr. Vesper, whom *Business Week* and *Inc.* termed the "dean of entrepreneurial studies," is also a member of its Policy Study Committee. This 12-person group is the core of the Institute and represents business, labor and leading schools of business that have a record of assisting small business and entrepreneurs. The Committee periodically commissions studies which will lead to a significant addition to the body of knowledge on small business.

Funded solely by Heller International, the Institute works through research, meetings with groups of small business owner/managers and a three-times-yearly, national poll of small business chief executive officers (the Heller/Roper Small Business Barometer) to provide information and assistance to public and private agencies interested in improving the environment within which small companies operate. Frequently the Institute also has opportunities to act as a catalyst, bringing together separate groups with common objectives relating to the well-being of small businesses.

PREVIOUSLY PUBLISHED HELLER INSTITUTE POLICY PAPERS

"Tax Incentives for Small Business," Hans Stoll and James Walter, The Wharton School, University of Pennsylvania. 1980.

"Building a Comprehensive Data Base on the Role of Small Business in the U.S. Economy and Its Policy Implication Questions," John B. Legler and Frank Hoy, College of Business Administration, University of Georgia. 1982.

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PREFACE

The task of developing this monograph, while thoroughly enjoyable, has nevertheless presented some difficult and sometimes frustrating challenges. A very broad subject, with many parts of it lacking adequate data, often makes drawing conclusions somewhat risky and fraught with possibilities for error. The importance of the objective, however, to reach out for explicit policy focus on entrepreneurship in these times when the nation needs it most, seemed to make the attempt worth while.

In this task I am indebted to many for helpful remarks and suggestions. The individual members of Policy Study Committee of Walter E. Heller International Corporation's Institute for Small Business were a great source of encouragement and support. Special thanks are due to John R. Thorne of Carnegie-Mellon University's Graduate School of Industrial Administration for the extensive and thorough reviews he provided on draft after draft, for the many ideas he contributed, and for the unflagging supportiveness he gave throughout the project. Additionally, I am indebted to Harvey Lederman, Executive Director of the Institute, for his open ear and helping hand during the long period while this paper was in preparation.

I was given every opportunity to do this paper well. To the extent that it may fall short, the responsibility for that rests with me. Comments and suggestions from readers will be received gratefully.

Karl H. Vesper

I. SUMMARY AND RECOMMENDATIONS

A. DEFINITION OF ENTREPRENEURSHIP AND POLICY IMPLICATIONS

Government attention to entrepreneurial, *new* ventures is relatively little compared to that given small, *ongoing* businesses (and that paid to large corporations). The result—some businesses that were ready for, and worthy of, starting do not actually get under way; latent entrepreneurs who could be encouraged by public policy into starting new companies instead follow other paths which may not be as creative. This can be economic waste on a national scale. Disregarded is the fact that today's start-up has some chance of becoming tomorrow's corporate giant. Lost is the economic impact of thousands of new businesses (never started) which could have developed into financially sound and productive small establishments that would have created jobs and added to the national output. The contributions of entrepreneurship to the nation need to be recognized, *separately and apart from small business*, in the form of wide-ranging supportive policies, some of which are recommended in this monograph.

The point is—entrepreneurship is different from small business. Both are important. Each merits special attention, yet entrepreneurship has not been getting its fair share of that attention.

The distinction in terminology is that entrepreneurship, as used here, refers mainly to the act and process of creating a new business,[1] whereas *small business* refers principally to companies already established and ongoing. (A schematic illustration appears in figure 1.) The two are interrelated, since entrepreneurship is the source from which all businesses spring. But entrepreneurship introduces new independent competitors to established companies, both small and large, and that is an important difference. It introduces benefits often associated with small businesses, but it also offers other benefits that are unique, such as opportunities for those who have not yet reached the status of business ownership to pursue that role.

Many of those same public policies that would help established businesses would help entrepreneurship as well. But in important ways entrepreneurship calls for different initiatives, namely programs which help qualified "outs" become "ins" of business ownership, in contrast with programs that simply enable the "ins" to stay in.

Some "ins" who prosper tend to become more complacent and less dynamic, competitive, and risk-taking. Entrepreneurs are just the opposite. They increase competition, challenging the existing firms. They seek niches where there are unsatisfied needs in the marketplace, transfer technology, create new ideas and implement them, induce investment and with it new jobs. Entrepreneurs provide an important

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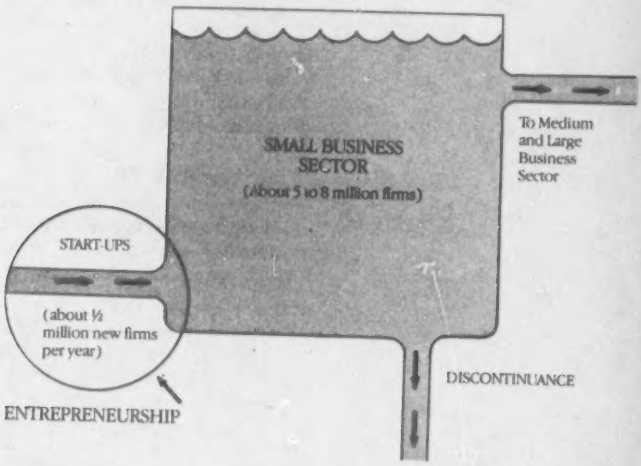
[1]Alternative definitions of "entrepreneurship" abound and are a matter of choice. Possibilities include: start-up of new independent business, independent takeover of an ongoing business or part of one, start-up of a new unit within an ongoing organization, start-up of nonbusiness organizations, "empire building" or undertaking new initiatives within bureaucracies, creative administration, opportunity-oriented or opportunity-driven management, dramatic escalation of performance trajectories in any organization, accumulation of wealth by many different means, such as "wheeling and dealing," investment or speculation, hustling up resources to undertake something new, making new combinations of resources, carrying through an innovation, and at times almost any creative act.

The term will be used here mainly with reference to the creation of new independent businesses. To a lesser extent it will also refer to takeover and escalated development of existing businesses by individuals, or small groups or teams.

public service. They increase choices for the consumer and generate employment not only for "ordinary" workers, but also for the less formally trained, less conforming and less typical potential employees, including minorities, first-time job seekers, the old and the handicapped.

FIGURE 1 SCHEMATIC DEFINITION OF ENTREPRENEURSHIP



Entrepreneurs introduce competition, which spurs productivity and efficiency. Some start-ups, particularly in high technology fields, provide exceptionally high-caliber jobs that offer extraordinarily rapid upward mobility, and in addition create excellent work environments, while contributing exceptionally to tax revenues and community development. Many, if not most, start-up firms display more individualized interest in and attention to their employees, thereby contributing to greater job satisfaction, than do older or larger firms. Start-ups may permit greater employee participation with less pushing from management, and even the potential for employees to become partners with significant ownership, as individuals, in the business. Employees of start-ups may also receive recognition for greater impact they have, individually, upon the business. The enthusiasm of the entrepreneur is contagious and often beneficial.

That is not to say that entrepreneurship is all benefit and no cost. But there are costs and losses with existing firms as well, and on balance it appears that the efficiency of start-ups is probably considerably higher because they inspire their people to greater efforts with less impedance from inertia and red tape. If the economy did not invest in start-ups, the result would be stagnation and rapid decline.

Many federal policies have been designed to help small business, with the assumption that start-ups, too, would be helped. But, in fact, those policies tend to neglect entrepreneurship. The difference

between entrepreneurship and small business is usually not too apparent, and it is often easier to simply not make the distinction.

Both scholars and journalists, as well as policymakers, tend to use the terms interchangeably. More importantly, however, entrepreneurship may receive short shrift because the constituency of small business operators is very easy to see, whereas the constituency of entrepeneurs remains largely invisible until after they have already changed into small business operators. Especially indiscernible are the "latent" entrepreneurs, people who could undertake action to start new companies but are not yet attempting to do so, and will not, unless policies encourage it. Too often, moreover, those who do find themselves motivated by "the system" to attempt start-ups prove to be among the less competent and thereby less likely to succeed. Many simply do not appreciate the problems, the unfavorable odds, and the high degree of skills required for successful competitive entry. More effective public policy could encourage the more able and promising latent entrepreneurs to take the same step with much greater chances for success.

Small business receives attention through small business committees of Congress. It has associations and lobbying groups at all legislative levels. It dominates the membership of local chambers of commerce and some entire sectors of industry. There is a federal agency named after it and devoted to it, complete with an office of advocacy. It is recognized as the employer of more than half of the United States workforce, and adulated through such symbolic gestures as a Small Business Week and acknowledgment of a small-business person of the year.

But entrepreneurship, the creation of new businesses, is given much less attention and support. To some extent advocates, particularly among venture capitalists and high technology trade groups, have spoken on behalf of start-ups, but mainly for just the high technology subset (e.g., computer-related, biomedical, electronic, etc.) of entrepreneurs. Even venture capitalists for the most part prefer to invest in established firms due to the high degree of risk associated with start-ups. To be sure, high technology firms are important, and may become even more so in the future, but they do not represent the only business arena of importance. Others, which are in fact more numerous, although typically less spectacular, should be given attention as well.

This monograph aims to bring entrepreneurship in all types of business endeavor to the attention of policymakers by describing what it contributes to the nation, and observing that benefits vary with type of venture. Sections of the paper will discuss what causes entrepreneurship to happen or not, what kinds of costs it imposes, and how it can be influenced by policy choices. To stimulate more entrepreneurship and thereby derive such benefits as increased jobs, innovations, and exports, it is proposed first and fundamentally that the start-up of new businesses – entrepreneurship – be explicitly recognized by policymakers as a vital activity that is distinct from small business management, although related to it. Second, it is proposed that policy initiatives be taken in nine areas. Their justification and

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details are developed at greater length in later pages. In brief, they are as follows:

B. RECOMMENDATIONS

1. SEED FINANCING: START-UP TARGETED VENTURE CAPITAL. Though various government and quasi-government activities and incentives are serving to increase venture capital for small business *as a whole,* (e.g., extended SBIC funding and lowered capital gains taxes), a particular area of need is that for initial seed and early stage equity financing. Established venture capitalists fall short of filling this gap because of the high risk involved and the uncertainty of being able to cash out later. Their interest also tends to be confined to high-growth enterprises, to the exclusion of many others that could be of substantial benefit to the nation. Therefore, other measures should be tried to stimulate investment in start-ups, such as additional start-up-targeted SBIC incentives, and encouragement of state securities agencies to support the intent of Securities and Exchange Commission (SEC) Regulation D.[2]

2. EQUITY RISK/REWARD PARTICIPATION BY FEDERAL GOVERNMENT. The federal government participates partially in the profits of successful new companies by taxing them. Sometimes it also puts up investment money, but only as a lender through loans and guarantees. While existing participation methods often work well, additional ways of balancing risk and reward should be devised for circumstances where present methods fall short. One way: allow the federal government to participate not only as a debt investor through loans and guarantees, now provided in the main to established companies, but also, in the case of start-ups, as an equity investor. Such participation should be conducted through intermediaries who are experts at private sector investment decision making and who are also risking their own money on those decisions. These co-investing intermediaries could be companies such as (or analogous to) SBICs, or banks and other financial institutions.

3. ZERO GAINS TAX ON CAPITAL LEFT IN START-UPS. Tax rules should be revised to provide greater start-up investment incentive. One of several recommended in the concluding section of this monograph: drop the capital gains tax to zero on money invested in a start-up or a very early stage company and left in the business for five more years.

4. ENTREPRENEURIALLY-TARGETED PROCUREMENT. Government procurement practices should be reshaped to increase the number of contract awards to start-ups, and even to new firms still in the pre-start-up phase. Larger companies that sell to the government should be encouraged by incentives to foster start-ups through assistance as suppliers, customers, and/or venture capital sources.

5. USE OF PATENT SYSTEM TO ENCOURAGE ENTREPRENEURIAL ACTIVITY. Improvement of the patent system, already under way, should be continued so as to produce better quality patents and better resolution of disputes at costs much lower than the present

[2]Rule 504 of new Regulation D allows for the raising of more money from a larger number of investors (now up to $500,000 aggregate from any number of accredited investors as against $100,000 aggregate from no more than 100 investors, previously) without registration. This and other provisions were intended to make the raising of capital easier and they will, but only if not contradicted by state securities agencies.

prohibitive litigation cost levels. This would benefit all business, but entrepreneurs in particular. Holders of unused patents should be encouraged to make them available to start-up companies.

6. FOSTERING OF ENTREPRENEURSHIP BY EDUCATIONAL INSTITUTIONS. Support for engineering and physical science research at universities should be expanded. More of the federal funding going to educational institutions should carry incentives for the creation and development not only of more and better entrepreneurship instruction at all levels within *all* types of businesses, but also incentives for the adoption of policies and programs designed to foster more spin-offs from and business start-ups in the vicinity of those institutions.

7. EXPLICIT RECOGNITION OF ENTREPRENEURSHIP. All federal agencies dealing with small-business affairs should be formally alerted to the distinctiveness of entrepreneurship, and to its importance and responsiveness to help. Each agency should incorporate explicit statements of policy toward entrepreneurship or start-up of new firms; one particular agency should assume or be assigned a leadership position in working with other agencies to carry through this program.

8. KNOWLEDGE BASE FOR BETTER POLICY JUDGMENTS GOING FORWARD. The process of shaping and expanding data gathering and analysis to provide better information for assuring the recognition of distinctions between start-ups and ongoing firms should begin immediately. By taking this step first, while implementation of other recommendations is being worked out, a base will be provided for making better judgments in the overall policy development process. A "sunset" provision should be implicit in the experimental approach. Tracking and analysis should recognize entrepreneurship in particular, and should measure results.

9. APPLAUSE FOR EXEMPLARY ENTREPRENEURIAL PERFORMANCE. Prominence should be given to enterepreneurs who have shown extraordinary performance in the creation of new firms. Prizes and awards might be established at local, regional, and national levels so that a substantial number of persons might be designated as, for example, "Entrepreneur of the Year." Inventors and other start-up team members who contribute crucially to the ventures should also be recognized.

Two guiding principles should be observed in implementing these recommendations and in developing others to follow them. The first is that attempts to influence entrepreneurship through public policies should be regarded as experimental for several reasons: entrepreneurship as a field of policy application and analysis is relatively new, largely unstudied to date, and characterized by many variables whose interrelationship is not yet well understood, and possibly cannot be well understood without experimentation. Where feasible, it would be desirable initially to perform experiments on a smaller (rather than a larger) basis, that is, regionally or locally rather than nationally, and then make expansion decisions contingent upon results. Assessment of results will, in turn, require the setting up of a system beforehand for gathering them.

The second principle is that the encouragement of entrepreneurship should be a long-term commitment by the government. Although some individual ventures grow very rapidly from start-up, the entrepreneurial development of whole industries or geographical areas can take decades, as illustrated by Boston's Route 128 and the San Francisco Peninsula. Policies, experiments, and assessments should all be undertaken with that understanding in mind. That does not mean, however, that their introduction or implementation should be delayed. For greater rewards of entrepreneurship in the future, ideas with promising potential should be urgently pressed ahead now.

II. INTRODUCTION

A. ENTREPRENEURSHIP: A NATIONAL RESOURCE

Entrepreneurship, the creation of new independent businesses, is an important national resource which is influenced by national policies. New businesses add products and services that improve choices for consumers and build competitive strengths for the nation against foreign rivals. Entrepreneurial ventures provide a competitive spur to existing companies, both large and small, stimulating them to improve quality and reduce prices to the benefit of buyers. They accelerate the advance and dissemination of new technologies which enhance national defense and the quality of life at the same time. The new jobs they create provide more alternatives for employment, particularly for many individuals who have difficulty finding or fitting into the rigid slots of established organizations. New ventures are territory essential for the pursuit of happiness by many. Through entrepreneurship more people become leaders and economic power becomes more decentralized, broadening the base for a democratic economy.

Entrepreneurship has been strongly identified with the industrial success of the United States, but it is not uniquely American. Industries in other countries were initiated by enterepreneurs as well, and entrepreneurship continues virtually everywhere, even in the Soviet Union, as attested to by occasional "punishments" for "profiteering." Other countries, including some that are quite socialistic, are studying and experimenting with ways of spurring their economies with entrepreneurship. Sweden and England have studies and experiments in progress. Manufacturing entrepreneurs are tolerated, even encouraged, in Italy, because they generate vital exports. Mainland China bends its political doctrines to let entrepreneurs undertake employment of others in small private enterprises. Meanwhile, other economies that are more free, such as Singapore, Hong Kong, and Taiwan, reap great economic benefits from start-up of new enterprises.

The United States has long benefited from entrepreneurship and to some extent recognized it, though mainly as a subheading under "small business." Small Business Investment Companies (SBICs) under the Small Business Administration, have typically invested a minority fraction of their portfolios in start-up companies. The *1982 State of Small Business* report to the president by the SBA includes occasional references and statistics pertaining to start-ups, but not many. Some tax policies such as those pertaining to R&D partnerships, Subchapter S corporations, and section 1244 stock have benefited start-ups.

However, when the degree of official attention given to entrepreneurship is viewed in perspective relative to: (1) the amount of attention given to small ongoing firms; (2) the amounts of governmental assistance given through loan guarantees, import restrictions, and the like, to large corporations; or (3) the amounts of economic aid given to other countries which pay none of it back in taxes as do domestic recipients, it appears that the degree of national policy support applied to start-up of new firms which may represent the great industries of the future is relatively small.

Thus, entrepreneurship in the United States is something like an untended but benevolent wild plant. It flourishes and bears fruit even though given relatively little cultivation by policy makers, who instead channel financial and other nutrients into other soils. The nation is reaping benefits, but possibly not nearly as much as it might if the wild plant were more favored, either by increased attention or by reduction of favoritism to the other plants with which it competes for nutrients, or by both. Means by which this might be accomplished will be explored in this study.

Possibly entrepreneurship may become more a technology – responsive to deliberate cultivation – and less a folkway, though never a science. This would be a change, for traditionally it has been a preserve of doers to the exclusion of cogitators, of action – not reflection – and of impulse rather than scrutiny and calculation. But the same was once true of other fields: farming, medicine, commerce, even engineering; and those fields have become more systematic in the means they have employed to increase their productive capacities while reducing their frequencies of failure. Venture capital seems to be an area wherein methods have been refined over the past two or three decades. "Networking" and syndication of deals has expanded, performance data have been shared and studied, and venture capitalists claim individually that their judgment and skills for assessing and arranging deals have improved markedly, although they may not be able to describe how.

Entrepreneurs have not been similarly linked, but their profession is receiving increasing attention. Some of it has been from scholars and some from journalists. Some has come from government officials who have recognized the importance of entrepreneurship to the nation and would like to help promote it. Some has come from community groups anxious to enhance their local economies, and some from associations seeking to sell literature and training to would-be entrepreneurs. Some has come from venture capitalists and from successful entrepreneurs who want to see the economy prosper from their forms of activity. Ideas about how national policy changes might help entrepreneurship have on occasion been offered by each of these sources. Recommendations taken, for instance, include the recent lowering of the capital gains tax rate which was followed by greatly increased availability of venture capital (Pratt 1981). There have also been significant attempts to review and improve the patent system.

But such reforms have been rare, and there has not been a policy focus on entrepreneurship in particular, even though it is known to be important. There is a Small Business Act which aims to promote

small business, and there is a Small Business Administration which seeks to implement this act. But most often that implementation ends up being applied mainly to *ongoing* small businesses rather than to start-ups. Not that ongoing small businesses are unimportant. Helping them may encourage start-ups indirectly, since the next stage beyond starting is to be an ongoing small business. If prospects for that next small business stage are made more promising, that in itself can attract more "latent entrepreneurs," people who are not attempting start-up but are capable of it, and prompt them to shift into start-up efforts.

Helping existing small business can also bring about a reverse twist. Preservation of ongoing firms, both small and large, may simply preclude entry by new enterprises that might do a better job if the existing ones were not propped up through assistance. Ongoing firms have a political advantage for obtaining government assistance, however, because they are a known and to some extent an organized constituency. In contrast, potential starters of new companies are virtually invisible and even undiscoverable until they have taken action to start a new enterprise, shortly after which they join the ranks of established small businesses.

It is understandable, then, that would-be starters might receive short shrift relative to established small businesses and also established large ones, in national policy formulation. There is no "Entrepreneurship Administration" to complement the Agriculture Department, Labor Department, Maritime Administration, or Small Business Administration. There are no government statistics pertaining to those who want to start new businesses, or have the potential for doing so, or even on start-ups themselves; their numbers, their performance, their needs, and their contributions are essentially unknowns. Entrepreneurship is left as an adjunct interest of other agencies whose main mission is something else, examples being the National Science Foundation, the Small Business Administration, and to a substantially lesser degree microscopic fractions of a few other federal agencies. Even there the interest is mainly either experimental or a coincidental effect of directives to accommodate small (mostly established) business. The fraction of attention and policy effort applied specifically to entrepreneurship is almost vanishingly small and vastly disproportionate to the importance of entrepreneurship to the nation.

B. NATIONAL CHALLENGES

Among the present and potential challenges to the nation that new start-up ventures may be able to help with are the following:

CHALLENGES	NEW VENTURE CONTRIBUTIONS
1. National Defense	Frank Whittle had to form an independent new company to introduce his jet engine in World War II. In the fifties, when defense contracting was less formalized, start-ups contributed many new components for missiles and avionics. More recently, although the potential for innovation still apears to be there (e.g., police radar detectors), start-ups seem to be utilized less in defense procurement.
2. Industrial Productivity	As will be discussed later in further detail, start-ups excel at motivating people to work unusually hard while at the same time encumbering them with mini-

	mal red tape and organizational inertia. Also, much of the equipment and services which increase productivity come from small new companies. For example, many of the robotics and computer-aided design innovations were introduced by new small companies.
3. Foreign Competition	By seeking out niches of economic opportunity and making the most of them with minimal resources and consumption, new ventures help "tune" economic performance, lowering costs as suppliers to U.S. exporters and so helping them compete. They also help reduce needs for imports by introducing efficient domestic substitutes (e.g., steel minimills).
4. Energy Conservation	Start-ups have contributed to conservation through creation of services such as installation of home insulation, products such as new types of thermal windows, and heat regulators. They have added energy sources in many forms: new windmill designs, solar heating systems, and small hydroelectric devices. Start-ups quickly responded to the petroleum shortage with stepped-up oil and gas exploration.
5. Mineral Shortage	New companies have pioneered materials substitutes in such areas as composites (Hexel honeycomb, Trussjoist laminated beams) and ways of better using or altering other materials (Ray-Chem, and High Voltage Engineering both started to apply irradiation to modify materials). They may also have potential to do more in the way of developing substitutes for strategic materials (e.g., Columbium), which the country can now obtain from foreign sources only.
6. Pollution Control	People working at home, fostering new companies that provide self-employment in suburban and even further outlying areas help reduce auto traffic into and out of smog-prone cities. Entrepreneurial inventors have pioneered most of the schemes for containment and cleanup of oil spills. Independent new enterprises traditionally spring up not only with fresh technology in monitoring instruments, but also for scavenging and thereby helping clear the world of refuse, war surplus, garbage, scrap metal, and wrecked cars.
7. Agricultural Threats	Entrepreneurs have pioneered ventures in mariculture, improved irrigation equipment, and hydroponics, and are now pioneering the application of genetic engineering to develop better plants and animals.
8. Unemployment	Changing age patterns, government spending shifts, job takeover by robots and foreign plants, populations shifts in taste and living style, demographic redistribution – all of these factors produce de-

clines in some companies and industries, with consequent unemployment (e.g., autos and steel) and give need for new business enterprises (e.g., computers and energy-saving devices) wherein new jobs must be created. New start-up companies offer the most flexible economic forms to accommodate many needs at the outset of change, and put people to work *productively* (not make-work) in needed new occupations.

9. Disaster Response — Flexibility under stress circumstances can be vital in the event of disasters. More entrepreneurs experienced in organizing new companies means more people available who can react quickly, provide leadership, and build from scratch – making the most of limited resources.

10. Health Needs — Many start-ups have been leaders in making new medical technology available to the market. Increasing advances resulting from medical research constantly creates need for more of them.

11. Economic Malaise — The very process of creating a new company is one of economic stimulation, fresh competition, and new hopes. Entrepreneurs tend to enjoy what they do, and their enthusiasm for it when they are creating a new company is often contagious.

This is not to claim that entrepreneurship will arrive like the cavalry to end, single-handedly, all these problems as soon as the right policy note is blown on the national bugle. But it has already demonstrated a high contributive capability, as will be discussed further. Virtually all of existing U.S. industry was initially a small independent entrepreneurial creation. Waves of industrial change were introduced by independent start-ups: autos and movies in the twenties and thirties, defense and electronics in the forties, discount retailing in the late forties and early fifties, semiconductors in the late fifties and early sixties, leisure enterprises in the late sixties, imports and services through the seventies, microcomputers and biomedical products in the late seventies and early eighties, and probably entire hosts of microprocessor applications as well as genetic engineering products, plus the unknown beyond that. Entrepreneurship has contributed mightily, and undoubtedly will continue to contribute without regard for whatever national policies may be applied. The underlying question is, however, how much *more* might entrepreneurship be able to contribute if policies are designed to create a conducive climate for it, rather than leaving its development to chance?

III. BENEFITS FROM START-UP COMPANIES

A. BENEFITS BY TYPE OF VENTURE

In examining the contributions of entrepreneurship it is difficult to escape partisan rhetoric either for or against it. Writers of "how-to" books, popular articles, and news media stories typically extol it, while writers of plays, fictional novels, movies, and television dramas most often portray the entrepreneur as rapacious and venal. The variety of forms real life entrepreneurship takes includes examples that can be used to demonstrate almost anything except homogeneity. Statistical studies invariably depict trends and averages, while ignoring ranges and variety, and the validity of their basic data sources is often

open to dispute. Careful studies which attempt to penetrate deeper than simple polling at a single point in time face problems of time-lag obsolescence. The ventures that fare best at one time may be ill-suited at another. Hence, categorical statements about entrepreneurship, its chemistry of occurrence and its benefits must be weighed with discretion. It is inevitable that in regard to many of the general statements about entrepreneurship which will be offered herein specific exceptions can be found. Indeed, it is one of the delights of entrepreneurs to be unconfined by general rules.

Different types of ventures yield different benefits and also have different requirements. To give some recognition to this fact while trying at the same time to avoid overcomplication, seven general types of ventures will be distinguished from one another here, as listed in table 1. The first three, wholesaling, retailing and service, are relatively familiar and conventional categories. Clearly, further subdivision could easily be meaningful. For instance, service ventures could be split into those requiring a high level of training, such as health care ventures; those requiring substantial capital equipment, such as air freight or telecommunications services; and those which require neither, such as house painting. Food service could also be justifiably broken out as a separate category for ventures, with the observation that fast food ventures have included some phenomenal successes (e.g., McDonald's) in recent years, as have oil prospecting services (which could be yet another category), computer leasing, and time-sharing. To let the line of discussion be more direct, however, these subdivisions were largely bypassed in this study and left for further consideration when more data become available. (See Recommendation no. 8 preceding.)

TABLE 1

CONTRIBUTION POTENTIALS OF ENTREPRENEURSHIP

	Job Creation						
	Short Run	Long Run	Significant Innovations	Spur To Economic Efficiency	More Exports	Decentralized Economic Power	Pursuit Of Happiness Channel
Type of New Start-up							
Wholesale Trade	low	low	few	doubtful	doubtful	yes	yes
Retail Trade	med	med	some	some	none	yes	yes
Service	high	low*	some	some	doubtful	yes	yes
High Technology	low	high	many	high	potentially	yes	yes
Proprietary (Other) Mfg.	low	med	many	some	potentially	yes	yes
Nonproprietary (Other) Mfg.	low	med	some	some	doubtful	yes	yes
Construction	med	med	some	high	doubtful	yes	yes

*The long-run prospect for service jobs in general appears to be high, but ventures in service work, individually, with rare exception, tend to be small in number of jobs and relatively short-lived.

The category of "manufacturing" was given further breakdown into three types; high technology, proprietary (other) manufacturing, and nonproprietary (other) manufacturing. The first would include such areas as electronics, computer-related products, biomedical, genetic, bioengineering, aerospace and nuclear proprietary products which involve esoteric knowledge, and normally college training in engineering, physical, or computer sciences. Proprietary (other) manufacturing whose technology is not so dependent upon higher education, normally does not involve such high expenditures for R&D, and may not be changing rapidly. Examples might include recreational equipment, furniture, many toys and novelties, many auto accessories, and mechanical products that may involve proprietary branding, patents, and/or tooling rather than unusually esoteric design know-how, as defenses against competition. The third category, nonproprietary (other) manufacturing, would include such enterprises as printing, saw-milling, and job machining, which rely principally upon general purpose equipment and produce to the customer's specifications rather than to proprietary specifications of their own.

The kinds of benefits new start-up companies introduce (including those mentioned earlier in connection with national needs), can be grouped into seven categories, as listed across the top of table 1; short run jobs, long run jobs, innovations, spur to economic efficiency, more exports, decentralized economic power, and as an occupational channel for the pursuit of happiness. From these flow other benefits, such as higher living standards and greater national strength. To some extent the benefits from new ventures may be "free," or pluses, such as situations that might result in employment of resources that would otherwise be wasted, or that might inspire from people higher performance than these people would otherwise achieve. And to some extent they will inevitably impose costs for what they contribute as will be discussed shortly, after a look at the benefits that tend to come from various types of new enterprises.

B. JOB CREATION

New jobs are needed (1) to replace jobs lost when existing companies fail or otherwise shrink their work force, (2) to cope with existing unemployment, and (3) to accommodate the work force as it expands or shifts its job preferences. At present, all of these reasons apply. The loss of existing jobs due to company contractions and failures seems, interestingly enough, to be not only a continuing and quite substantial process, but also one rather evenly distributed across the country. Based upon analysis of Dun and Bradstreet data (validated by sample cross checks [according to Birch 1979]) on 5.6 million firms representing approximately 82% of private sector employment, Birch found that on the average, jobs are lost due to company deaths at a rate ranging from 4.5% to 5.7% per year and due to company contractions at a rate ranging between 2.5% and 3.4% every two years, so that on the average about 6% to 7% of jobs are lost and have to be replaced every year. He further points out that seeking to prevent this elimination of jobs by the propping up of failing companies or forcing companies to retain unneeded jobs, is likely to be self-defeating, as it has been in Britain and Holland. That approach simply makes industry more obsolete, inefficient, and uncompetitive. Better than preserving old jobs as a way of coping with contractions and deaths of companies is the creation of *new* jobs.

New jobs are also needed to roll back existing unemployment, and to accommodate a growing and changing work force. During the seventies it is estimated that 22 million people entered the United States work force and 20 million new jobs were created for them; not enough, but still many.[3] Present trends indicate that another 15 million jobs will be needed in the eighties, because of the "baby boom" of the fifties and sixties. After that the work force will decline because of the "baby bust" of the seventies, possibly followed by another boom.[4] Superimposed on these overall pressures will be shifts due to entry of minorities and women into the work force, displacement of workers by automation, increased foreign competition, changes in demand, and changes in both the work preferences and the kinds of skills Americans acquire. It appears, for instance, that in the near future there will be too many college graduates available[5] and too many doctors, dentists, and lawyers,[6] although *not* too many electronic engineers or computer scientists, an important observation to be considered further later on. These changes too, will each call for creation of new jobs. Preservation of old jobs would likely only be an expensive and fruitless attempt to retain obsolete and unprofitable work.

Clearly, small firms are important creators of new jobs, although studies differ somewhat on the numbers. Birch (1979) found that 87% of all new private sector jobs between 1969 and 1976 came from firms with fewer than 500 employees, 77% came from firms with fewer than 50 employees, and 66% from firms of 20 or less. Working from different data (*Country Business Patterns*, from a compilation of 4 million firms made up by the Bureau of the Census), Legler and Hoy (1982) found that 74.2% of jobs were created by firms of 50 employees or less and 47% by firms of 20 or less. Yet another study, using data collected by the Brookings Institution on 5 million reported businesses found, for a somewhat different time period (1978-80), that small firms generated jobs roughly in proportion to their employment, and that firms of 100 employees or less added 39.1% of the net new jobs generated for the period (Armingdon and Odle 1982). Rates varied substantially with region and line of business in all the studies, as will be discussed further along. Both the disparities between studies and the causes of variations within studies would seem to merit further clarification effort.[7]

How start-ups in particular contribute jobs was highlighted first by Birch's finding that 80% of all new jobs were produced by new companies, and that they were created during the first four years of their existence. Birch later observed that "Not all small businesses are job creators. The job creators are the relatively few younger ones that start up and expand rapidly in their youth, outgrowing the 'small' designation in the process" (Birch 1981, 8). Another study

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[3] *American Business*, Feb. 15, 2, 3.
[4] *Wall Street Journal*, Mar. 4 1982, 29.
[5] *Wall Street Journal*, Feb. 25, 1982, 29.
[6] *Forbes*, Feb. 1, 1982, 111.
[7] For example, should Apple Computer Corporation as a "job generator" be counted among the small companies because it started from nothing in 1976, or among the large ones because by 1982 it employed 4,000 people?

(performed jointly by the accounting firm of Deloitte Haskins and Sells, and the consulting firm of Arthur D. Little [1982, 2]) reported that companies financed by SBIC's generated more than ten times the employment growth rate of all other small companies. The distinguishing features of these SBIC investments included two outstanding facts – roughly one third of them represented start-up investments, and they were largely in high technology industries.

These findings were paralleled by those disclosed in a study by the American Electronics Association of 325 electronics manufacturers. Among them it appeared that the employment growth rate of firms five to ten years old was 50 times as great as that of companies more than twenty years old, and the job production rate of start-up companies less than five years old was twice again that high (from testimony before the House Ways and Means Committee, March 7, 1978). An important difference between the studies of Birch and the A.E.A. is that even though both point up the importance of start-ups in generating jobs, the types of industries they are emphasizing are different, and the results are significantly different. The A.E.A. refers to high-technology manufacturing, essentially all in electronics, and to new jobs *per firm*. Birch, however, is treating new jobs in the aggregate, not high technology in particular, and on that basis observes that "Recent job replacers overwhelmingly tend to be providers of services – broadly defined to include all those private activities outside the so-called 'goods producing' sector (manufacturing, agriculture, mining and construction)." Birch notes further that high technology is an exception within the "general malaise" of the manufacturing sector, but not a big enough part of it to offset the remainder.

Dramatic examples of both company types can be seen in the lists of leading growth companies compiled by two magazines, *Inc.* and *Venture*. Both emphasize entrepreneurship – *Inc.* by concentrating on rapid growth from relatively small beginnings, and *Venture* by focusing on companies still headed by their founders. Because the lists are selected on the basis of historical performance, both necessarily obtain their data some way downstream from start-up. Therefore, they leave out the most recent start-ups. Both also leave out ventures that have already been absorbed by other companies, as frequently happens with high growth small enterprises.

What the "Inc. 100" and the "Venture 50" firms represent is in effect the *maximum* job-generating performance that seems to be possible with small, young companies and that level of performance is attained at present by only a very small fraction of the total number of small firms. It may also suggest that the potential job contributiveness of start-ups is vastly greater than is now being realized.

Inc. presented three lists in May 1981, all comprised of companies whose sales had grown by the greatest multiples, starting from a base of between $100,000 and $25 million five years earlier. The "Inc 100" and "Second 100" (farther down the list in size), were chosen from publicly held companies, while a third list, the "Private 100" included closely held firms. Familiar names on the first 100 included Prime Computer (4,000 employees, founded in 1972), and Kinder Care

(7,200 employees, founded in 1969). The second 100 included Monolithic Memories (2,391 employees, started 1969), and Brookwood Health Services (3,000 employees, started 1967). On the "Private 100" were Data Electronics (300 employees, started 1974), and Godfather Pizza (14,000 employees, started 1973). These were exceptional leaders, however. The average number of employees per company for the top 100 was 887, for the second 100 it was 554, and for the private 100 it was 327.

It is impossible to determine the extent to which the jobs represented *net* additions to the economy, after comparison with displacement of jobs elsewhere. Some of the companies grew by acquisition, and therefore may have entered the "high growth" category simply by lumping existing economic resources together rather than creating new ones. If companies that included acquisitions are removed from the lists, and only the net increase in jobs at those without acquisitions over the preceding five years is counted, then the average number of jobs added per company is smaller for the 1981 "Inc. 100" – only 532, versus the 887 figure above – but slightly larger for the "Private 100" – 360, as opposed to the 327 above. Thus, the statistics on job creation can "slide around," given the present state of the data thus far.

Venture (May 1982) has another way of selecting top performers – on the basis of total sales from among companies still headed by their founders. The "Venture 100" list ignores age and includes such companies as Hewlett-Packard (65,000 employees, founded in 1938) and Marriott Hotels (80,000 employees, founded in 1927). The "Venture 50", half as long a list, includes only companies up to ten years old, such as Tandem Computers (3,200 employees, founded in 1974) and Pizza Time Theaters (7,000 employees, founded in 1977). Interestingly enough, there is relatively little overlap between the lists of *Inc.* and *Venture*, though both attest to the high performance of intrepreneurial companies.

Again, with the lists in *Venture*, however, the average number of jobs per company is substantially below that of the top performers. For the "Venture 100" the average is 15,250, much lower than those of Hewlett-Packard and Marriott, and for the "Venture 50" the average per company in 1982 was 960.

This disparity in average employment between the two *Venture* lists points up an important aspect of the job-generating capacity of these high performance companies. It can take a considerable number of years for its full impact to be felt. The average "Venture 50" company with its employment of 960 has been in business for only seven years, while the average "Venture 100" company, in order to reach its 15,250 job level, has been around for twenty-seven years.

It is important to not be swept away by the impressiveness of job-generating performance of the top few most spectacular companies, such as the lists of *Inc.* and *Venture* present. The 54,000 jobs added by the "Inc. 100" in five years would be very small relative to the magnitude of the unemployment problem in the United States, as suggested by the 11 million unemployed figure and others shown for

perspective in table 2. Another way of viewing the figure is to note that the 54,000 added over five years, or on average 10,000 per year from these most spectacular firms, would be less than 1.3% of the average total added per year in all companies of 500 or fewer employees according to the figures of Birch. Thus it would take about 75 times the "Inc. 100" to match the total small business addition of jobs that occurred, net, among the 5.6 million firms reported by Birch's sample. If more of that 5.6 million had performed like the "Inc. 100," the job generation by small business would have been correspondingly greater in total.

TABLE 2

COMPARATIVE NUMBERS OF JOBS

CATEGORY			SOURCE
OVERALL PERSPECTIVE			
Unemployment Checks Issued 11/13/82		4,840,000	Labor Department
Unemployed Seeking Work 11/82		11,500,000	Labor Department
Unemployed Not Seeking Work 11/82		1,600,000	Labor Department
Part-time employed dissatisfied 11/82		6,600,000	Labor Department
Farm Workers in U.S.		3,700,000	*Science American*, 9/82, 88
Lawyers in U.S.		535,000	American Bar Assoc.
Convicts Sitting in Prison		350,000	*Business Week*, 3/22/82, 18
IBM Employees		350,000	*IBM Annual Report*, 1981
Teamster Drivers, Warehouse Workers		300,000	*Wall Street Journal*, 8/17/82, 1
Oil and Gas Miners		300,000	*Science American*, 9/82, 91
Coal Miners		208,000	*Science American*, 9/82, 91
SELF-EMPLOYMENT JOBS			
Total Self-Employed in U.S.	1950	6,000,000	*Venture*, 9/81, 91
Total Self-Employed in U.S.	1960	5,000,000	*Venture*, 9/81, 91
Total Self-Employed in U.S.	1979	6,500,000	*Venture*, 9/81, 91
GROWTH VENTURE JOB AGGREGATES			
"Venture 100" total employment	1982	1,524,900	*Venture*, 5/82, 30
"Venture 50" total employment	1982	84,000	*Venture*, 5/82, 43
"Inc. 100" total employment	1979	51,700	*Inc.*, 4/79, 58
"Inc. 100" total employment	1980	78,100	*Inc.*, 5/80, 49
"Inc. 100" total employment	1981	88,700	*Inc.*, 5/81, 51
"Inc. Second 100" total employment	1981	55,400	*Inc.*, 6/81, 37
"Inc. Private 100" total employment	1981	32,700	*Inc.*, 12/81, 35
"Inc. 100"	1982	62,600	*Inc.*, 5/82, 49
"AEA 212" companies total emp.	1978	13,118	AEA, 1978
Massachusetts High Tech Jobs	1975	54,000	*Policy Choices*, Spr. 82
Massachusetts High Tech Jobs	1982	220,000	*Policy Choices*, Spr. 82
JOB GENERATION OF INDIVIDUAL VENTURES			
Wendys	founded 1969	100,000	*Venture*, 5/82, 38
Hosp. Corp. of America	" 1968	75,000	*Venture*, 5/82, 38
Chart House (Burger King)	" 1963	16,000	*Venture*, 5/82, 38
Godfather Pizza	" 1973	14,000	*Inc.*, 12/81, 41
Data General	" 1968	14,000	*Venture*, 5/82, 38
Federal Express	" 1971	11,000	*Venture*, 5/82, 38
Advanced Micro Devices	" 1969	10,000	*Venture*, 5/82, 38
GAP Stores	" 1969	7,800	*Venture*, 5/82, 38
Pizza Time Theaters	" 1977	7,000	*Venture*, 5/82, 38
Golden Corral Restaurants	" 1973	5,300	*Inc.*, 12/81, 41
Rolm	" 1960	5,000	*Venture*, 5/82, 38
Apple Computer	" 1974	4,000	*Venture*, 5/82, 38
Tandem Computer	" 1974	3,200	*Venture*, 5/82, 38
SOME NUMBERS OF ENTERPRISES			
New Retail Startups Total	1981	43,000	*U.S. News*, 1/25/82, 64
Software Startups		5,300	*Venture*, 1/82, 55
Newsletter Entrepreneurs		2,300	*Business Week*, 1/5/82, 109
Companies Offering Franchises		1,778	*Money* 2/82, 76
Women-Owned Businesses, U.S.	1977	702,000	Business Census, *Monitor* 8/26/82
Women-Owned Businesses, U.S.	1982	2,800,000	I.R.S.

TABLE 3

INDUSTRIAL GROUPINGS OF HIGH PERFORMANCE VENTURES

	DISTRIBUTION OF EMPLOYMENT BY INDUSTRIES (PERCENT)										
	MINERALS	HIGH TECH	OTHER MFG.	RETAIL	WHOLESALE	FOOD SERVICE	HEALTH CARE	OTHER SERVICE	CONSTR.	DIVERSIFIED	TOTAL
Source											
						Totals of All Companies					
Venture 100 '82	2.1	25.2	7.7	12.5	1.0	18.9	9.4	11.9	2.2	9.1	100.0
Venture 50 '82	14.9	48.1	8.5	0.9	0.0	17.0	5.1	5.5	0.0	0.0	100.0
Inc. 100, 1979	5.9	33.1	15.9	0.0	0.4	13.0	5.0	15.5	0.8	10.4	100.0
Inc. 100, 1980	4.2	43.9	15.7	0.0	0.0	4.9	1.7	8.1	0.2	21.3	100.0
Inc. 100, 1981	7.6	35.2	12.4	0.0	0.0	6.1	5.5	13.0	0.2	20.2	100.0
Inc. 100, 1982	17.3	38.4	17.3	0.1	0.6	5.0	12.1	8.2	1.0	0.0	100.0
Inc. 100, 1981	7.6	35.2	12.4	0.0	0.0	6.1	5.5	13.0	0.2	20.0	100.0
Second 100, '81	9.2	58.7	11.6	0.6	1.0	0.0	6.0	12.0	0.0	0.9	100.0
Private 100, '81	0.0	9.4	8.5	1.9	1.6	62.1*	2.0	13.6	0.9	0.0	100.0
						Excluding Companies That Grew By Acquisitions					
Inc. 100, 1981	2.0	70.4	12.7	0.0	0.0	0.4	9.7	3.4	0.8	0.6	100.0
Second 100, '81	1.6	85.3	3.9	0.0	1.1	0.0	1.7	4.7	0.0	1.7	100.0
Private 100, '81	0.1	9.4	6.0	0.6	1.7	69.7	1.2	10.2	1.1	0.0	100.0

*Two restaurant chains, Godfather Pizza and Golden Corral, together accounted for 59%.

The high performance as represented by the *Inc.* and *Venture* lists seem to have clustered in certain types of industries and not in others, as can be determined from table 3. For instance, high technology is highly represented in the lists as a job adder, whereas retailing and wholesaling are not, and additions in services are inordinately concentrated in a few fast food firms. This representation should not, however, be assumed to be necessarily characteristic of the job addition potential of the economy as a whole or of new start-ups in general.

The number of new jobs created is not the only indicator of the impact of entrepreneurship upon employment. It may not even be the most important. Start-up companies' jobs may serve the employment needs of people who might otherwise not fit into or find their greatest potentials in the disciplined regimens of established companies. Very small ventures often provide entry level opportunities and training for youths, minorities, immigrants, and women either to be entrepreneurs, or to work for them. "Moonlight" ventures provide additional opportunities for creativity enjoyment plus expanded earning capacities for people whose full-time jobs are too confining.

At the low-pay end of the spectrum, entrepreneurial ventures find ways to put otherwise unemployable people to work and off the dole (unless, of course, the dole is more attractive through the combination of leisure and income it offers, or unless the minimum wage exceeds what the ventures can afford to pay). Opening shops to sell artifacts produced by convicts, organizing youths for summer house-painting, and farming out assembly work to women at home cottage industries illustrate kinds of initiatives entrepreneurs have undertaken with their own resources to a much greater extent than have established firms. How much more of this they would do, and the impact it might have – upon unemployment, and the costs of social welfare and prisons if the minimum wage were removed, or if tax deductions were allowed on hired-out home repairs or other personal services – provide cause for speculation. The answers are unknown, but might be worth exploration and experimentation.

More jobs at the high end of the spectrum are also a major benefit of entrepreneurial ventures. By the time a high technology start-up reaches employment of 100 people it is likely that at least one of those people will have reached millionaire status.[8] This adds wealth to the community, and by virtue of added spending brings additional jobs, taxes, and so on. Long-established companies, when they open new branch plants, add congestion, smog, burdens on infrastructure, and taxes, but essentially no new millionaires to the community, and for that reason the jobs they create may be less desirable than those of start-ups.[9] Entrepreneurs who have become wealthy are often the sources of seed capital and know-how for additional new start-ups.

Thus, different types of ventures offer different types of jobs benefits. For high income, wealth, and taxes, high-technology enterprises, and

[8]At Apple Computer, which today employs 4,000 people, 5% have become millionaires.

[9]Even the high prosperity and supposedly clean high-technology industries can bring congestion and pollution, as happened with Fairchild Semiconductor in San Jose – years later, after having grown large (*Inc.*, September 1982, 84). The risk, however, may have a closer link to new technology than to entrepreneurship.

perhaps some other specialties (such as oil exploration and drilling, where high skill qualifications are needed), seem to excel. For large numbers of jobs in total, based upon fewer jobs per venture but many ventures to make up for it, service enterprises seem to be most effective. As will be discussed later, to get different types of ventures, with their corresponding types of benefits, different types of policy actions are likely to be most effective.

C. INNOVATION

Virtually all new ventures, almost by definition, contribute innovations to the economy, regardless what their lines of business may be. However, some types of innovations are more visible and spectacular, particularly those in high technology products. Which innovations have the greatest impact on jobs, profits, taxes, or the economy is not always clear. Peter Drucker, for instance, observed that "Installment selling may have had a greater impact on economies and markets than most of the great 'advances in technology' in this century."[10]

It is clear, however, that entrepreneurial start-ups have contributed important innovations in all major categories of business. Familiar services in which start-ups innovated include Federal Express, Smokenders, and Evelyn Wood (the last two started by women). In manufacturing, other than high technology, the running shoes of Nike, and the games of TSR (Dungeons and Dragons, for instance) are recent innovations known to many which were introduced by start-ups. Retail innovators include myriad small start-ups, each with a special "twist" of some sort, many of which are illustrated in magazines such as *Venture, Inc.*, and *Entrepreneur.* Mary Kay Cosmetics, the only female-founded enterprise on the "Venture 100" list, has prospered (Mary Kay Ash's holdings are worth $132 million) from unique strategies of direct selling. Mail order merchandising start-ups have introduced other new approaches, such as the acceptance of major credit cards for phone orders. Wholesaling start-ups are less prominently visible, but also innovative. Leading Edge, for instance, began as a wholesaler of microcomputers with a solution to the capital-short/poor-credit-risk problem of retailers. In return for C.O.D. payment, the company promised extra-fast delivery, which in turn relieved the retailers to whom it sold from the pressures of requiring capital to carry inventory, and enabled them to pay C.O.D., thereby solving the credit and collections problem.

Finally, the high technology category is where legions of dramatic innovations abound. Gore-Tex fabrics emerged from a "moonlight" venture of a DuPont scientist whose employer had rejected the line of product development that led to it. Interestingly enough, however, the product was introduced to the consumer market by a non-high-technology, struggling tentmaker only after the established companies in that field had rejected it because none of the other established companies was using the fabric. "Mr. Merlin," the popular electronic toy, was developed by a husband and wife team working at home. Computers, electronics, medical apparatus, and other innovations from high-technology start-ups, are listed continually, not only in the

[10]Editorial page. *Wall Street Journal*, Feb. 26, 1982.

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entrepreneurship magazines, but also in the daily papers of many cities where such start-ups are to be found. The important role of individual inventors in creating new products is illustrated by a list from the National Bureau of Standards which appears in table 4.

TABLE 4

SOME CONTRIBUTORS OF INDEPENDENT INVENTORS AND SMALL ORGANIZATIONS*

Inventions	Inventors
Digital Computers	Eckert/Mauchly
Xerography	Carlson
Laser	Townes
Insulin	Banting
Turbojet Engine	Whittle/Von Ohain
Magnetic Recording	Camras
Oxygen Steelmaking Process	Schwartz/Miles/Burrer
Gyrocompass	Kaempfe/Sperry/Brown
Rocketry	Goddard
Shell Molding	Croning
Shrink-Proof Knitwear	Walton
Zipper	Judson/Sunback
Self-Winding Wristwatch	Harwood
Continuous Hot-Strip Steel	Tytus
Helicopter	Cierva/Focke/Sikorsky
Air Conditioning	Carrier
Ball Point Pen	Biro/Biro
Tungsten Carbide	Schroeter
Velcro	de Mestral
Fiberglass Surfboards	Simmons
String Trimmers	Ballas
Magnetic Core Memory	Wang
Flexible Soda Straws	Friedman
Vacuum Tube	DeForest
FM Radio	Armstrong
Penicillin	Fleming
Petroleum Catalytic Cracking	Houdry
Fiber Optics	Kapany
Heterodyne Radio	Fessenden
Streptomycin	Waksman
Cyclotron	Lawrence
Titanium	Kroll
Cotton Picker	Rust/Rust
Dacron Polyester Fiber	Winfield/Dickson
Automatic Transmission	Hobbs
Mercury Dry Cell	Ruben
Power Steering	Davis
Color Photography	Mannes/Godowsky
Polaroid Camera	Land
Cellophane	Brandenberger
Bakelite	Bakeland
Hovercraft	Cockerell
Metal Laminated Skis	Head
Fiberglass Snow Skis	Kirschner
Prince Tennis Racquet	Head
Geodesic Domes	Fuller

*Source: Adapted from listing received from Jacob Rabinow, National Bureau of Standards, with additions by author.

The importance of industrial innovation to the nation has often been noted. It has been estimated that technological innovation was responsible for 45% of the nation's economic growth from 1929 to 1969 (Daniels and Barbe, 1981, 34). In the words of a 1978 blue-ribbon panel, "the ability of our economy to carry out technological innovation – to introduce commercially successful new products, services and processes – is the foundation of both our domestic prosperity and our international competitiveness" (Commerce Technical Advisory Board, Dec. 1978, iii). Substantiation of this claim for high-technology manufacturing in particular has been implied by a study of Brinner (1978) which presents the following figures:

COMPOUND ANNUAL GROWTH RATES (%): 1950-74

INDUSTRY	EMPLOYMENT	PRODUCTIVITY	OUTPUT	INFLATION
High Technology	2.6	4.0	6.7	0.5
All Manufacturing	1.2	0.3	3.5	2.4
Low Technology	0.3	2.0	2.3	3.0

The United States has been a nation of high technological creativity. As can be seen in table 5, the number of Nobel prizes it received has been high relative to other nations. This pattern was paralleled almost directly by the number of its major innovations, as judged by an international panel of experts who began with a list of some 1,310 innovations obtained from trade literature. Whether these outputs are divided by populations of the countries, total R&D spending, or total civilian R&D spending, the pattern showed the United States as a strong innovative performer, led only by the United Kingdom, and trailed substantially by Germany, France, and Japan.

However, there are reasons to be chary of these reassuring figures. One is that they are, particularly in the case of the innovation count, from ten to twenty years back, and things have changed since then. Another is they may conceal leads and lags that exaggerate the time effects even further in terms of actual events, since it takes time for an innovation to be developed, introduced, proven, and judged. Other countries also consider innovation important, and in both Japan and Europe policymakers have been conducting studies aimed at discovering ways to step up their innovative performance. There are a number of signs that the United States is losing ground. According to *Inc.* "U.S. inventors account for only 15% of patents worldwide, a 5% drop in 15 years. Foreign inventors now account for [the filing of] more than half of the U.S. patents in the most advanced technologies."[11] Ramo (1981) further notes that "In the 1950's over 80% of the most significant technological advances brought to market were developed in the U.S. By the late 1960's the figure declined to around 50%." And that was twenty-two years ago! Ramo goes on to argue that the declines in U.S. productivity and balance of merchandise trade are also symptomatic of decreased innovativeness.

[11]Howard fields, "Government Patents; It's Time to Change the Rules," *Inc.*, July 1979, 14.

The point these observations make is that it is in the national interest to pursue *all* constructive avenues of technological innovation. This would include the three channels: innovation by large firms, by established small firms, *and* by entrepreneurial creation of new independent ventures. It is the net increase of innovation overall that is of principal interest, and an increase in one of these three channels at the expense of the others might not necessarily be a net gain.

TABLE 5 COMPARING THE CREATIVE OUTPUT OF FIVE MAJOR INDUSTRIAL NATIONS

Country	Million[1] Population	Total[2] R&D Spend. $ Bil.	Civil. R&D Spend. $ Bil.	Nobel[3] Prizes '50-'80	Major[4] Innovs. '53-'73	Innovs. per Mil. Pop.	Innovs. Per R&D Bil. $	Innov. Per Civ. R&D Bil. $
U.S.	213.6	35.2	23.1	99	315	1.47	8.95	13.6
U.K.	56.0	5.2	3.9	34	85	1.52	16.35	21.8
Germany	61.8	10.6	9.7	12	35	0.57	3.3	3.6
France	52.9	5.0	3.7	6	20	0.38	4.0	5.4
Japan	111.0	9.8	9.7	2	35	0.32	3.6	3.6

Sources:
1. United Nations, 1977.
2. Commerce Technical Advisory Board, 1977, 19.
3. Inc., July 1981.
4. Gellman, April 1976.

Which channel is most effective for producing what sort of innovation has been a matter of some debate, and probably of considerable confusion, based upon an incompleteness of data and analysis. An extensive review of the literature and existing data on this subject by the Comptroller General, (U.S. General Accounting Office) was reported in an 86-page document in July 1981,[12] which concluded that: (1) small businesses contribute significantly to United States industrial innovation, but (2) quantification of its amount is virtually impossible due to definitional, methodological, and data limitations; (3) small business innovativeness varies with industry, and (4) the processes involved are highly complex and not well understood, (5) being influenced by a complex set of economy-wide, industry-specific, and firm factors – listed in table 6 – that combine to form an environment for innovation; (6) not all these factors are controllable by federal policy; (7) prediction of specific impacts of given federal actions is not directly possible; and (8) the best that can be offered are some general types of questions that are listed in the report for testing proposed federal actions.

[12]This study reviewed some 175 books, articles, and reports, which are listed in its excellent bibliography, as well as about 100 present and proposed laws and regulations aimed at stimulating small business (not focused upon start-ups in particular) innovation. The GAO researchers also interviewed some 50 representatives of small business (not focused upon latent or prospective entrepreneurs) plus 25 officials, staffs of congressional committees, and consultants. Reviews of the report by staffs of three other federal agencies were performed and included as appendices.

TABLE 6 WIDE RANGE OF VARIABLES AFFECTING INDUSTRIAL INNOVATION

INNOVATION STAGES	FACTORS WITHIN EACH STAGE
1. Invention	1. Activities & functions performed
2. Development	2. Types of people and roles involved
3. Commercialization	3. Resources needed
	4. Outputs

ELEMENTS OF AN ECONOMY-WIDE INNOVATION CLIMATE
1. World economic, political, social and physical conditions
2. Social desires, needs, values and pressures
3. Economic supply, demand, capital, uncertainty, inflation
4. Political groups, pressures, visibility
5. Government policies, actions, laws, regulations
6. Changes in social and economic contexts
7. Barriers (perceived or real) to innovation
8. Incentives -- taxes, profit rates, subsidies, government markets
9. Balance of barriers versus incentives
10. Optimism or pessimism prevailing

KINDS OF INDUSTRIES
1. Atomistic 2. Mixed 3. Oligopolistic 4. Monopolistic

ELEMENTS OF INDUSTRY INNOVATION CLIMATE
1. Growth rate of output, sales, and value added
2. Technological opportunity and availability of new approaches
3. Competition and rivalry through markets or technology
4. Balance between supply and demand
5. Balance of barriers versus incentives
6. Changes in number of firms in the industry
7. Availability of capital and resources

ELEMENTS IN THE INNOVATION CLIMATE OF A FIRM
1. Technological opportunity availability and usefulness to firm
2. Strategy of the firm
3. Structure and makeup of the firm's organization
4. Maturity of market and firm's track record
5. Size of firm in employment, sales, technical people
6. Availability of resources within and accessible to firm

TYPES OF INNOVATIONS
1. Product
2. Process
3. Service
4. Management
5. Primary versus
6. Contributive

KINDS OF CONDITIONS FOR SMALL FIRM INNOVATIVENESS
1. Necessary 2. Important 3. Desirable

In a second report, dated December 1981, the GAO researchers reviewed nine studies which, although they did not single out start-ups in particular, treated the issue of small-firm innovativeness. Only six were found that specifically related innovativeness with size:

1963– Daniel Hamberg, in a *Journal of Political Economy* article, "Invention in the Industrial Research Laboratory," reported that based upon literature review plus a nonrandom sample of 27 inventions, less than 30% of "important" innovations came from research laboratories of big companies, who nevertheless got most of the accolades and financial support.

1967 – Robert Charpie, in a well-known Department of Commerce Report, *Technological Innovation: Its Environment and Management*, based upon review of the studies of others, plus experience of the authoring "blue ribbon" panel, asserted, but did not quantify the claim, that "independent inventors and small firms are responsible for an important part of our inventive progress, a larger percentage than their relatively small investment in R&D would suggest," and that "a unique opportunity exists in the provision of incentives aimed at encouraging independent inventors, inventor-entrepreneurs and small technologically-based companies."

1971 – John Jewkes et al., *The Sources of Invention* – Based upon sixty-one invention case histories, concluded that "more than half the cases can be ranked as individual invention in the sense that much of the pioneering work was carried through by men who were working on their own behalf without the backing of research institutions and usually with limited resources."

1971 – Christopher Freeman, *The Role of Small Firms In Innovation In The United Kingdom Since 1945*, reported after examining the sources of some twelve hundred innovations by British industry that companies with under two hundred employees produced only 10% of them, and were concentrated in only a few industries. They included scientific instruments, electronics, and machinery industries, but none which were capital-intensive. He also found that small firms, although less productive, were more efficient at innovating.

1976 – Gellman Research Associates, *Indicators of International Trends in Technological Innovation*, a report based upon study of 500 innovations which were drawn from trade literature by an international panel of experts, indicated that 47.3% of the U.S. innovating organizations had fewer than one thousand employees, and that 23.5% of them had fewer than one hundred employees.

1979 – Willard F. Mueller et al., in, *Market Structure and Technological Performance in the Food Manufacturing Industry* after reviewing 265 food manufacturing innovations concluded that "firms of all sizes within and outside the food manufacturing industries, individual inventors, independent research laboratories, and government-sponsored research laboratories have all made meritorious inventions. Smaller enterprises have been especially productive in this regard."

Thus, studies suggest that small firms and inventors are important contributors to innovation, but relative to large companies the degree of their innovativeness is hard to specify, and quantitative measures of it are elusive.[13] Just where start-ups fit between individual inventors and established small firms is not specified at all, although from specific examples such as those mentioned earlier, they clearly account for an important share of those innovations.

Scholars have advanced a number of other claims about the roles of small and new companies versus established and larger ones in innovation. One is that entrepreneurial companies tend more to produce "breakthrough" or "leapfrog" creations (Krasner 1982, 279), e.g., Xerox, while established companies stick to incremental improvements, e.g., last year's Ford versus this year's Ford. Schlaiffer (1950) presented a detailed case study illustrating how this can happen. A second claim is that start-ups introduce products more quickly, or within shorter development times, than larger companies

[13] A National Science Foundation report (1976) indicated that small firms produced 24 times as many innovations per R&D dollar as large firms (over ten thousand employees) and four times as many as medium-sized firms, but support for this claim has not been sufficient to sustain it. More recently, the SBA reported a superiority of two to three times for smaller firms (U.S. Small Business Administration, March 1982, 59).

(Stroetmann 1977, 14). A third is that start-ups more frequently create new markets and thereby new jobs whereas larger companies concentrate more on process innovations which save money by eliminating jobs and thereby exacerbating unemployment (Morse 1976, 3).

For a given innovation many alternative organizations for and pathways to the marketplace may work, as has been illustrated in the case of the microcomputer. Each of the many brands now on the market had its own unique history and organizational chemistry. Three of the earliest were the Apple, the Vector Graphic and the Tandy, all with very different histories.

- Each of Apple's two founders worked for a different company, and each offered his employer (at the time) the product which they had developed together as a hobby after work hours. When both employers declined it, the two men carried on with their own start-up, which became Apple. Later, the two employers, Atari and Hewlett-Packard, independently developed and introduced their own microcomputers.
- Vector Graphic's first microcomputer was designed by a man working for Hughes. But the start-up that made a product out of it and introduced it to the market was created by his wife, together with one of her lady friends.
- The Tandy microcomputer was conceived by a Radio Shack sales executive at home. After proposing it to his employer and having it rejected, he made a working prototype on his own, reproposed it, and this time his employer carried it forward to introduce the highly successful TRS-80.

Thus, a given innovation could come out of either a start-up or an established company, and it is impossible to foresee which avenue will, in general, work best.

The GAO, based upon its interviews and review of the literature, was loathe to go much beyond suggesting that new ventures tended to innovate only in less capital-intensive industries (a claim which is itself open to dispute, considering some multimillion-dollar start-ups, such as Amdahl Computer, Federal Express, and Alza Corporation), noting that "case studies of the creation of new firms have found very little commonality in their conditions. It is, therefore, unrealistic to attempt to predict what factors are most likely to stimulate the creation of new firms. For the same reason it is unrealistic to predict the attendant development of new industries" (Comptroller General, July 1981, 28).

The important point here may be that not only the "typical chemistry" of entrepreneurial innovation cannot be stated at present, but that the directions it will take in the future cannot be foreseen. Yesterday it may have been electronics, and today it may be computer-related, but beyond that nobody knows from which field it may manifest itself. There does seem to be some tide of expert opinion suggesting that high technology is likely to play an especially important part. Summing up a series of articles which it published on "Backyard Inven-

tors," the *Christian Science Monitor* (Nov. 20, 1981, 13) observed that "it is products with a scientific edge, designed by inventors with some scientific training, that will be the most important inventions of the 1990's and beyond, experts say."

Part of the reason that high-technology start-ups in particular are important, even though they are only a tiny minority of the ten thousand or so start-ups which occur every week (on the average), derives from the fact that a single one of them can grow very large, as did the classic, Xerox. Another part is that from only a few start-ups a great cascade of others may follow. In the late 1700s and early 1800s there were in New England start-ups in textile machinery making (Lowell), and gun making (North), which instigated the founding of numerous other companies in gun making (Smith and Wesson, Colt, Winchester), machine tools (Pratt and Whitney, Warner-Swasey), clocks (Seth Thomas), watches (Waterbury, Waltham) and still other machine-tool makers (Jones and Lamson, Brown and Sharpe), etc. (Heckman 1981). In more recent times similar cascading of entrepreneurship has happened in electronics, semiconductors, minicomputers, computers, microcomputers, computer software, etc., as illustrated in figure 2.

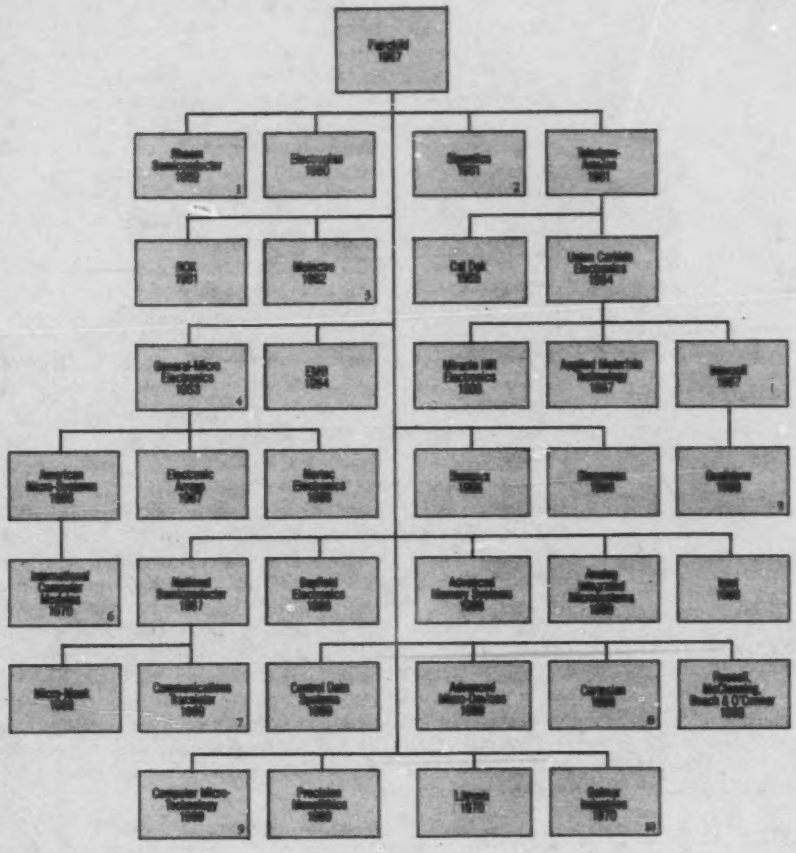
It is worth noting however that figure 2 also demonstrates that this major industry creation process takes many years to achieve full force. As spectacular as the initial growth rates of individual start-ups often are, their greater effects can require decades. Politically, this can be a substantial difficulty, although economically it seems to be necessary. Also politically difficult is the fact that the small beginnings, involving as they do few participants, represent only small constituencies which are much tinier than those of established businesses, small and large.

Yet another difficulty is the fact that opportunities missed through start-ups that do not occur may be mistakes that are invisible, even though the price paid for them is real. Some of these may be things that make people's lives safer, longer, or more enjoyable. Safety flags for bicycles, and string trimmers for the garden, might not have been missed if start-ups had not introduced them when they did. It is also possible that they would have been introduced still earlier if the climate for invention and start-ups had been more favorable. Certainly the technology to make them possible was there and could have been exploited much earlier.

The nation may be missing opportunities for other inventions which could be introduced now if the climate for invention and start-ups were better—inventions which, for instance, might improve productivity. It is known that innovation contributes vitally to productivity improvement (McConnell 1979), and that start-ups have pioneered in productivity innovations including robotics, automatic machinery, and myriad better ways of doing things. What we don't know without experimenting is what more they could deliver. The patent attorney who said that "federal waste is a drop in the bucket compared to our waste of creative talent,"[14] may be right. Effective response to these subleties puts a premium on political vision and perseverence to draw the most from entrepreneurship.

[14] *Christian Science Monitor*, Nov. 17, 1981, 13.

FIGURE 2 FAIRCHILD BEGAT TREE (1957-70)



NOTES:
1. Acquired by Raytheon in 1961.
2. Two founders were from Semiconductor Corp.
3. Assets of Molectro acquired in reorganization of National, which moved from Connecticut to California.
4. Acquired by Ford-Philco in 1966.
5. Other founders were from Circuit Engineering & Design, Fairchild, GE, and Union Carbide.
6. Three founders from AMI and three from Hewlett-Packard.
7. Two founders from Fairchild.
8. One founder from Philco-Ford Microelectronics.
9. Four founders from Fairchild and one from ITT Semiconductor.
10. Two founders from Fairchild, and one from Semimetals, Inc. and one from Peripheral Systems Corp.

Source: from Kirk P. Draheim "Factors Influencing the Formation of Technical Companies," in Cooper and Komives, 1972. With permission.

D. PRODUCTIVITY AND ECONOMIC EFFICIENCY

Despite the many contributions of established industry, and those of the existing level of entrepreneurship, to productivity in America, that productivity has been changing adversely for many years, especially when held up in comparison to that of the Orient. The last quarter of 1981 for example, showed it to have slipped to its largest decline on record.[15] Some of the fault appears to lie with management (failure to use the most effective quality control and inventory control methods, overemphasis on short-term, as opposed to longer term performance and misjudgment of the market). Some of the decline also seems to have been due to labor's shortcomings: tardiness, early quitting, long lunches, feigned sick days, and office socializing have been estimated to cause waste of over $100 billion per year, according to one study of 312 companies.[16] Some of it has been due to inferior product design and/or poor workmanship (e.g., defective tires). After cataloging product failures ranging from toasters to Three Mile Island, and from auto recalls to collapse at the Kansas City Hyatt, sociologist Marvin Harris quipped that "America is dying of a broken part."[17] High wages (many times higher for steel and auto workers than for gas station attendants and security guards), and restrictive work rules also seem to play a part. Meanwhile, the average American (not entrepreneur) has been spending an estimated six hours daily watching TV.[18]

Increased entrepreneurship cannot by itself eliminate all these developments, but it can contribute more in the direction of productivity. An illustration of how it has helped in the past would be the case of the New England textile industry, which many years ago undermined itself as have the auto and steel industries more recently. The textile industry never rebuilt in New England, but ultimately it was supplanted by the growth of new start-ups in other industries, notably high technology, which built new communities of prosperity and even rejuvenated some of the old mill towns. For this to happen required some massive boosts to entrepreneurship, including the stimulation arising out of World War II, high government procurement in electronics, and substantial expansion of education in science and engineering locally. All this was over a period of several decades, but the rewards followed ultimately.

A start-up has to be efficient and productive to prevail. It must overcome established competitors possessing the advantages of established working and business habits, built-up facilities, and known brands. It must offer something as good or better for as little or less. Osborne, for instance, managed to break in to an already booming microcomputer industry, but only by offering portability greater than that of the competition, plus a price substantially lower. This in turn impelled other companies to respond in kind, and the consumer benefited from lower prices and a wider range of product choices. It is likely that there was little in the way of inefficient work rules or workers slacking in the companies that brought about this advance.

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[15] *Wall Street Journal*, Mar. 2, 1982.
[16] *American Business*, Feb. 1982, 1.
[17] Marvin Harris, *America Now* (New York: Simon and Shuster, 1981, 17).
[18] *Wall Street Journal*, Jan. 6, 1982.

Entrepreneurship seems to capitalize on certain characteristics that stimulate Americans to do their best. One such is an appetite for freedom that they often use to be constructively creative, whether in homebuilding, high performance vehicles, entertainment or invention. Inventor Jacob Rabinow studied the timing of his inventions over the years and found that his output was higher when he was self-employed than when he worked for established organizations.[19] Many others have found they had to leave employers to pursue ideas by starting their own companies (U.S. SBA, April 23, 1980, 12).

Direct competition is a second feature of entrepreneurship that seems to draw out the best. In a start-up there is no momentum to coast on and competition is direct for every employee. Entrepreneurs set examples of long hours. Cooper and Dunkelberg (1979, 11) noted, for example, that small firm owners and their families typically put in 63-hour workweeks. Yet pay is low and dedication high (U.S. SBA, Mar. 11, 1980, 1) so that employees often find themselves impelled and obliged to work harder and smarter. Rewards in a startup are more likely to be connected to individual performance and not distributed on any automatic across-the board basis as in many established companies.

Third: Americans often seem more responsive to individual accountability, as opposed to industriousness for its own sake (for which Germans are sometimes noted), or commitment to collective duty (which many Japanese are said to exhibit). Traffic regulations and tax laws, for example, seem to work better when there is followup than when left to individual discretion only. In start-up ventures the followup is there to assure that each person does his or her part, because typically the group is small, and nobody is likely to become lost or overlooked in it. Those in charge are likely to be very close at hand and extremely interested in results.

Finally, Americans often pay more heed to longer term outcomes in matters affecting their own property as opposed to that of others. Whether it is home ownership versus rental, private schools versus public, or individually- versus company-owned taxicabs, the closer the tie between ownership and responsibility, the more intense and personal the concern, and the more farsighted seems to be American stewardship. In an entrepreneurial venture where the manager owns much or all of the business, the incentive is there to build for the future, possibly even at the expense of current profits, wages, and salaries.

Additional views on why new firms should be more efficient at carrying out innovation in particular have been advanced in other studies (Smollen and Levin 1979, 79). Such views include the presence of generalists in start-up firms versus narrower specialists in larger established firms; willingness of the start-up to serve initially smaller markets, offering correspondingly more variety and custom treatment to customers, versus need in established larger companies to be supported by broader and more uniform markets; and greater

[19] *Christian Science Monitor*, Nov. 17, 1981, 12.

flexibility of strategy, willingness and ability to switch to totally new directions in a new firm, as opposed to the greater inertia of an established firm. One entrepreneur commented that "In a large company you are constantly compromised back to a middle position so heads don't fall if you fail. Everyone's trying to protect himself. In that kind of atmosphere life is too frustrating, and products just take too long to develop"[20] The result is often a higher degree of adaptability, greater flexibility, quicker response time and, because time is money, lower cost—hence higher efficiency in the start-up than in the established company.

These are essentially heuristic arguments based upon anecdotal evidence and claims of entrepreneurs, and others who have participated in start-ups, that they did work very hard during the process. There has been no systematic collection and analysis of data done to ascertain whether they really do, or by how much, or whether such extra effort outweighs the mistakes made when trying to start things up for the first time. It is assumed that if the new enterprise prevails against competitition and makes a profit, that demonstrates its efficiency. Perhaps that is sufficient, but better data would be more reassuring and probably help understanding.

It is observed that start-ups spur other companies to better performance (e.g., entry of Federal Express pushed the U.S. Postal Service into adding express mail). Enterpreneurs are constantly outside the walls of established businesses, small and large, trying to break in with different schemes—Century 21 with more effective ways of selling real estate, new commuter airlines to replace the majors when air traffic is deregulated. Sometimes they improve services, as when American House Calls recruited young physicians in New York and helped them obtain business through offering to make house calls, something the established medical profession was not doing.[21] Sometimes they provide essentially the same services for lower prices, as did two recent UCLA law school graduates, Jacoby and Meyers, when they started setting up low cost, high volume legal work, and built up a chain of some seventy-five offices.[22] Sometimes entrepreneurs take over a failed business and make it successful, as did Clifford Borland with his Newport Steel Corporation. After the union had escalated wages to a point where the company lost $14.6 million in three years, failed, and was shut down, Borland and two partners raised new capital, negotiated a fresh contract with lower labor costs, recreated 565 jobs by restarting the plant, broke even the first quarter, and started a $28 million expansion, despite a recessionary economy.[23]

But statistical productivity data on the small businesses which entrepreneurs create gives somewhat mixed readings. One line of argument says that economies of scale and learning-curve effects should give the advantage to bigger businesses, and data are offered indicating that unit cost declines at a predictable inverse exponential

[20] *Venture*, Feb. 1982, 32.
[21] *Forbes*, April 12, 1982.
[22] *Forbes*, Feb. 15, 1982.
[23] *Newsweek*, Mar. 22, 1982, 63.

rate with quantity produced (Boston Consulting Group 1970). It has also been pointed out that established big firms can raise capital at lower rates and enjoy greater market and purchasing power to effect such economies. The company with an established brand finds acceptance more readily among buyers, and in shipping larger volumes can give price breaks and other rewards to middlemen, thereby enhancing sales. A study currently under way seems to be finding that collusion, in concentrated industries, also enables larger established companies to benefit. The evidence suggests that smaller companies in those industries earn higher rates of return and are therefore more efficient than the larger companies, while the larger companies, despite their lower efficiency, are able to command larger market shares. (Lippitt and Schultz 1982). Larger companies clearly have an economic advantage in contending with government regulation (Somers and Cole 1982; Berney 1982), and probably a political advantage as well.

The U.S. Small Business Administration has observed that "most small businesses are less productive than larger businesses when something other than a physical measure of output per unit of input is used" (Mar. 1982, 58). If wages are used as a measure of value added, then smaller firms typically look worse than larger ones, especially in construction, retailing, and manufacturing (U.S. SBA, Mar. 1982, 191). Moreover, the percentage change in output per employee has been going up more slowly than in larger firms (Legler and Hoy 1982, 4). The rate of return on assets appears generally to be better for small business in transportation, trade, finance, and services, but poorer in agriculture, mining, construction, and manufacturing (Joray et al. 1982). But in each of these categories there are wide ranges, with small companies ahead sometimes and large ones ahead at other times, in contradiction of the averages.

It has, however, been pointed out that standard measures for productivity may not give due recognition to what entrepreneurs accomplish (Berney, Feb. 1981). The measures overlook the fact that start-ups and smaller firms may be employing assets (such as used machinery) that larger firms would not employ, are most likely understating income to get tax breaks, or may be generating jobs for untrained, uneducated, or handicapped workers who otherwise could not find jobs. The fact that the employees might be part-time or "moonlighting" could distort the statistics, as could elements of the "underground economy," which takes considerable pains to avoid being credited with what it earns. If the firm finds a shortcut, such as being able to manufacture using a cheaper substitute material, the government's way of measuring causes that to register as a productivity decrease, when in fact it might be an efficiency increase.

There are also data indicating that when individuals or small groups undertake new ventures they are more successful than when established companies try it. *Venture* (June 1980, 42) reported that independent entrepreneurial start-ups on the average reached breakeven sooner, achieved higher ultimate profits and return on investment, and produced higher sales than corporate internal start-ups,

particularly after the first two years. Reservations about the findings, however, pointed out that the number of independents examined (34) was less than half that of the internal start-ups and was selected from among venture investments in a nonrandom manner.

There is also evidence that enterprises remaining under independent entrepreneurs perform better than those acquired by larger companies. According to David Birch:

> There appears to be little evidence supporting the notion that larger firms protect smaller ones during recession by acquiring them. Quite the contrary, acquisitions appear far more vulnerable as part of a larger organization than if they had remained on their own. In general, there is little evidence suggesting that acquired firms do a better job of generating employment (or staying alive) than those that remain independent. If anything, the evidence all tends to go the other way (Birch and MacCracken 1981, 63).

To round out the picture, it would be interesting to be able to examine the ways in which former corporate divisions perform after being spun off to ownership and operation by independent entrepreneurs. This has happened with some familiar names: Harley-Davidson (from AMF), Ringling Brothers Circus (from Mattel), Beech Nut Foods (from Squibb), and several retail chains from Genesco, as described in *Venture* (Nov. 1980, 14-16), plus many others less familiar. As told in the press, their prospects seem upbeat, but how they really work out over a longer period of time, and just why, has not been examined.

Another question is, who manages acquired companies better—established firms or independent entrepreneurs? The case for acquisitions by companies does not look promising. A review of the literature on merger results found that nobody, in fifty years of research that has been done on the subject, had concluded that mergers paid off (Hogarty 1970). Unfortunately, no similar research has been performed to examine the case for acquisitions by independent entrepreneurs. The evidence suggests that the findings would in all likelihood be quite different.

Also unexplored and perhaps of greater interest would be the effect start-ups have in stimulating greater efficiency among established firms. When established companies become complacent, competitors in the form of new firms often enter with higher quality and better prices. Retailers who complain about new discounters with cheaper facilities, manufacturers who are distressed by "garage shops" entering their business arena with attendant low overhead, and real estate brokers who are upset by newcomers who undercut traditional commission rates, are a few examples of reaction to new entries. Undoubtedly, many licensing laws and training requirements for entry into some lines of business are essentially barriers erected to keep out competitive start-ups. Construction codes have the same effect—excluding start-ups—in factory-built housing.

National policies which move in the direction of deregulation tend to create opportunities for more productive start-ups. But so far, the

amount that start-ups contribute to productivity through this process has not been effectively and systematically assessed. It appears, however, that by the very nature of the competitive process, start-ups tend to add to economic productivity and efficiency in all lines of business they enter. Those that do not are weeded out by the competitive process and fail, provided government policies do not prop them up (as they do some larger companies).

It has been suggested that we are entering an age in which economies of scale will become less important than they are now. In part it is because customers are becoming willing to pay for customizing to obtain higher performance, and also because technology is making shorter production runs more economical (Soukup 1982). If so, then the potential for start-ups to contribute to productivity and increased efficiency would likely become greater than ever, since they excel at small scale, short production runs, and fast response.

E. EXPORTS

As start-ups contribute to innovation and to increased economic productivity and efficiency, as discussed in the preceding two sections, they also help strengthen the nation's capability for competing in exports.

The United States balance of merchandise trade has been adverse for years, and at present seems to be getting worse, not better. So far, this imbalance has been offset mainly by exports in agriculture and by income received in interest and dividends from U.S. loans and investments made overseas in prior years when a more favorable balance of merchandise trade made that possible. But these latter receipts of income may shrink on a net basis as holdings and loans of foreigners in the United States expand and build more flow the other way.[24] Thus, the need for strengthened exporting capability from start-ups and other sources is great and becoming greater.

Export strength from start-ups takes time to develop. New companies usually begin by serving domestic markets first, and when exporting does start, it comes mostly from manufacturing start-ups. Pricer (1979) found, for instance, that among small manufacturing firms in SBA Region V, exports on the average amounted to 5% of sales, but for one-fifth of the manufacturers exports accounted for 15% of sales. There is also some indication that high technology start-ups in particular excel in export relative to other types of manufacturing. The American Electronics Association reported (1978) that $100 of equity investment in the companies it studied generated $70 worth of exports, among other benefits. A number of examples have been reported by *Inc.*[25] But here, as in other areas associated with entrepreneurship, the data are limited, spotty, and more indicative than quantitative or explanatory.

The emphasis just attached to manufacturing is not intended to imply that service start-ups make no contribution to the nation's international competitiveness.

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[24] *Wall Street Journal*, Feb. 10, 1982, 46.

[25] Sept. 1979, 48; Nov. 1979, 113; Feb. 1981, 21; and Sept. 1981, 82).

To the extent that service start-ups increase efficiency, lower prices, and provide ancillary help enabling manufacturers who do export to do their jobs better, they add to export strength. On the other hand, to the extent that they simply add to domestic convenience or luxury (e.g., decorative gardening, entertainment) or simply work in response to government-created red tape (e.g., tax services, environmental impact consulting) or as a result of friction (e.g., lawsuits, crime), they probably do not, even indirectly, strengthen exports. For that reason expansion of service start-ups alone, even though it may be a quick way to create more jobs, has little to do with implementing international competitive strength.

In data gathering and further study for the purpose of learning better the true contribution and potential of start-ups to help U.S. foreign trade, it would be well to consider not only what they can add to exports and to exporters, but also what they can do to diminish the need for imports. There appears to be considerable entrepreneurial potential and low cost labor sitting unutilized in U.S. prisons, for instance (Shedd 1982), some of which might conceivably be employed to compete with labor-intensive imports (e.g., handicrafts, Persian rugs, electronics assembly). As with exports, anything entrepreneurship does to increase overall innovativeness and efficiency at producing substitutes for imports can help strengthen the nation's balance of trade.

Foreign countries have also recognized this fact, and several have mounted programs of research, experimentation, and development to stimulate more entrepreneurship. Some leaders include the United Kingdom (Webb et al. 1982), Sweden (Utterback and Reitberger 1982), and Japan, which has recently mounted new efforts both in innovation[26] and in venture capital[27]. This situation too adds to the urgency.

F. DECENTRALIZATION OF ECONOMIC POWER

Economic decentralization has been an explicit aim of federal policy since the antitrust laws were enacted. Yet economic power appears to have been growing more concentrated for many years. This is particularly so in manufacturing, where the share of assets held by small- and medium-sized companies fell from 50% down to 30% between 1960 and 1976, according to the U.S. Department of Justice (1979). Those assets owned by companies worth less than $10 million fell from 18.6% down to 11.1% in the same period.[28] Total net income and value added has also been increasing faster for the 200 largest corporations than for the remainder of the economy (Blair 1972).

Greater survival of existing small companies would help mitigate this trend. But since some small companies are going to grow large; and others are bound to fail or be merged, the small business share is bound to continue shrinking and economic concentration to keep increasing unless enough start-ups are generated to make up the

[26] *Christian Science Monitor*, Nov. 15, 1982, 18.
[27] *Business Week*, Oct. 11, 1982, 53.
[28] Federal Trade Commission, *Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations*, Third Quarter, 1979.

difference. Hence, entrepreneurship has an absolutely vital role to play in maintaining decentralization of economic power.

Just how great that role is or should be, or how it can best be brought about in concert with other governmental policies, such as antitrust enforcement, has not been systematically analyzed or determined. One authority on economic concentration has suggested that government policies favoring entrenched companies have been a principal cause of concentration.

> On the other hand, government is a powerful contributor to higher concentration and the suppression of competition. It contributes directly to concentration by the manner in which it procures what it needs, disposes of what it no longer needs, and leases to others what it owns. It directly suppresses competition through quotas, patents, tariffs, and a wide variety of other restraints imposed by different agencies (Blair 1972, 372).

As part of the remedy for this effect, Blair calls for not only a withdrawal of such government support of established companies, and enforcement of antitrust legislation, but also "measures designed to stimulate the development of new decentralizing technologies and to remove barriers confronting independent inventors and smaller innovative firms" (Blair 1972, 591). The recommendations, which will be discussed later in this study, are intended to constitute such measures.

G. PURSUIT OF HAPPINESS

Notwithstanding the importance of benefits from entrepreneurship discussed thus far, there is another that may be even more important, namely that entrepreneurship can be a path of career satisfaction, one that is open to anyone in the United States, and one that is preferred by many. Entrepreneurship is an avenue to self employment and, according to Milton D. Stewart, editor of *Inc.*, "we have good evidence that although 7% of our labor force is self-employed, seven times that number would like to be" (May 1981, 7). Moreover, the desire seems to be pervasive among groups of different ages, whether male or female, employed or unemployed, although, as will be discussed shortly, there is unfortunately often a mismatch between desire and capability.

Some indication of the preference of Americans for self-employment can be seen in the following results of various surveys:

- Thirty-three hundred high school seniors surveyed by the University of Michigan for five successive years indicated that the most preferred employment setting was self-employment, followed by employment in small business, ahead of employment in big business, government, social service, teaching, police and military (Bachman and O'Malley 1979, 173).
- Entrepreneurship has long been the most popular elective at the Harvard Business School. A 1972 survey of its students found 91% favoring small business careers, and 40% indicating that "by a significant margin" they saw ownership in small business as their primary career objective (Dooley 1972, 210).

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- At other business schools, student demand for courses in entrepreneurship has been a main factor responsible for the increase of such offerings, which existed at fewer than 10 schools in 1967 and is to be found at over 150 today (Vesper 1980-A).
- A sampling of Babson College alumni six to ten years after graduation found that only 14% were content to be working for someone else, the remaining 86% having indicated preference for owning their own businesses (Hornaday and Vesper 1981).

The *Inc.* reader who wrote the following to the editor may not have been too far off the mark when he said "A quick survey of people more or less my age (I'm 26) reveals a nearly unanimous desire to be entrepreneurs at some point in their careers. These people have discovered the stifling and unrewarding experiences that come along with corporate security and prestige" (Nov. 1981, 11).

It appears that whereas there are many people currently performing entrepreneurship, there is probably an even larger number of "latent entrepreneurs," people who are working for others but who would rather start new companies of their own. It is a presumption of this discussion, as will be discussed further along, that it should be possible to introduce changes in the combinations of opportunities, resources, incentives, and personal capabilities of some of these latent entrepreneurs that would propel them into successful start-ups.

There is considerable evidence that the happiness believed by many to be associated with entrepreneurship is not merely a dream but often an achievable reality. Noting that the questionnaire sent to Babson College alumni asked identically the same question that had revealed to Hornaday and Kuder (in an earlier study) that about 40% of employees who work for others preferred a different line of work entirely, Hornaday and Vesper (1981) found that only 8% of alumni with their own firms had such a desire. Among alumni who worked for others the fraction was 38%, very close to the earlier study. The extraordinarily high satisfaction that small business chief executive officers find in their jobs was clearly demonstrated by a Heller/Roper Barometer poll of twelve hundred of them in 1980 which reported 91% as saying they were happier in their independent companies than they would be in similar positions of large companies. A comparable percentage also believed they had a better chance to make a significant impact in their line of work in their independent companies.

Similar results were reported by a survey which included both entrepreneurs and managers, all of whom were successful. Jane Adams obtained questionnaire data from some two hundred successful men and followed up fifty of them with personal interviews in depth, after which she reported that "entrepreneurs tend to attain the financial goals earlier than do managers; in fact, overall they earn much more money than do even the most senior executives of major corporations. Also, the greater degree of independence they enjoy provides better opportunities to balance personal and professional needs and rewards, and they tend to consider questions of balance more frequently and in greater depth than do managers." She went on

to say, "The value entrepreneurs assign to independence was the most significant difference between the two types of successful men" (Adams 1981, 59-61).

This contribution of entrepreneurship as a path for pursuit of career happiness is not confined to any particular line of business, nor was any of these surveys so confined. A survey of 561 farmers reported that 95% would, if allowed to choose, remain farmers, in contrast to 60% of the general public who said they would keep their present occupations.[29]

Significant as it is, however, the happiness contribution of entrepreneurship indeed has its limits. It is only a path to *pursuit*, not an assured arrival. Those ventures that fail are hardly a joy. Even ultimately happy successes may incorporate unhappy low points along the way. One entrepreneur wrote *Inc.* (in a letter to the editor): "I would not want my son to have to experience what I have...guns pointed at me on numerous occasions...brutality and vandalism to jobs, construction equipment and buildings."[30] Enthusiasm for a venture can also have a darker side, as when it detracts from family and other wholesome aspects of life, just as other types of careers can.

The attractiveness of entrepreneurship, despite its strengths, may be insufficient to overcome the counterpull of job security and other benefits found elsewhere, especially for many who might be best qualified to succeed at start-up. More is needed for success than prospective job satisfaction alone.

IV. REQUISITES FOR START-UP

A. VENTURE OPPORTUNITIES

To bring a venture into being requires that a potentially profitable market opportunity, resources, and appropriate human action all dovetail. National policy may influence the presence of any of these three factors. Market opportunities may be created by shifts in the economy, whether toward prosperity or recession (though presumably those created by the former are preferable), by government purchasing decision, or by advances in new technologies that add new products or services, and make existing ones better or cheaper. National policies may effect the emergence of such opportunities in any number of ways. They can also make resources such as venture and expansion capital, raw materials, and facilities, available. And they may affect the personal abilities of potential entrepreneurs to perceive and act upon venture opportunities.

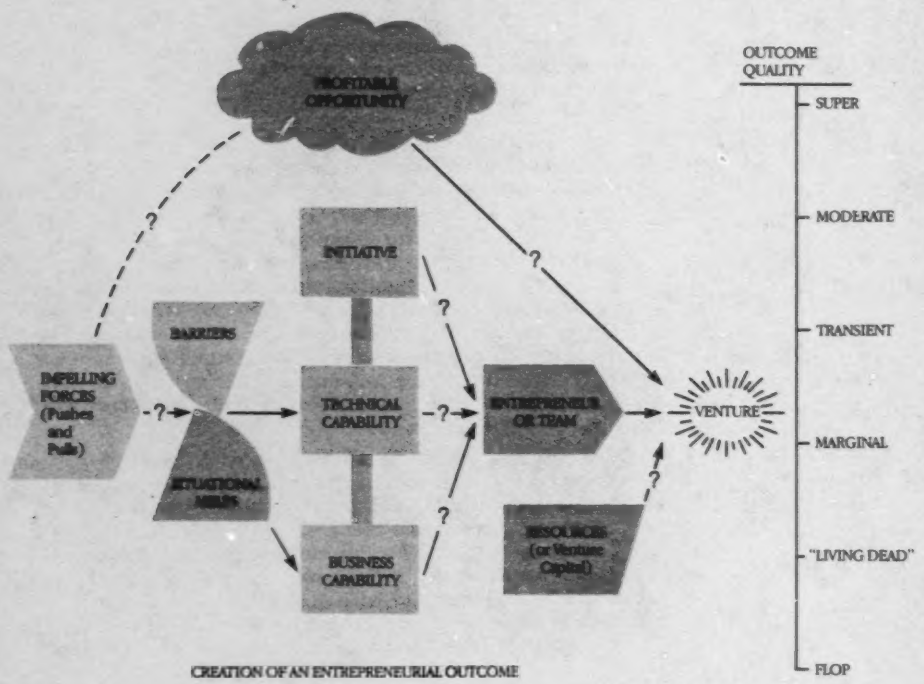
How such factors join in a venture is depicted schematically in figure 3. A venture opportunity somehow comes into being within the range of vision of individuals, some of whom are in a position to act upon it, and some of whom are not. Some perceive it, and of those one or more may take actions to capitalize upon it. Which ones do is determined by personal impelling forces, some from inner desires and drives, and others externally imposed by events and incentives, possibly influenced by national policies. Mitigating against individual actions to create new ventures are barriers, such as lack of capital,

[29] *Seattle Times*, Mar. 28, 1982, A20.
[30] *Inc.*, Dec. 1981, 10).

shortages of information, and regulatory constraints or discouragements, plus other deterrents, such as high tax rates on real estate speculation, which also may be influenced by national policies.

These variables which influence the likelihood of individuals taking the initiatives to start ventures can be sorted into four general categories as designated in figure 3. They are "Pushes," "Pulls," "Barriers," and facilitators, or "Situational Helps." Not all are mutually exclusive, and to some extent the absence of one factor may be caused by the presence of another. Also, a given policy action or other element of the environment may influence more than one factor at the same time. A limitation in discussing them is that they have not been subjected to a substantial amount of study. Some have not been studied at all in a systematic way. Of the studies that have been done concerning them the most substantial have concentrated upon high technology ventures, to the exclusion of other types of ventures that are also important but may have different chemistries.

FIGURE 3 MAKING OF A VENTURE OUTCOME



CREATION OF AN ENTREPRENEURIAL OUTCOME

B. "PUSHES" As noted at the left in figure 3, "pushes" refers to negative aspects of present employment which cause individuals to look for something else, either another job or a start-up. A study of displaced professionals along Boston's Route 128, for instance, found that 15% moved away while 5% stayed and started new companies. How many of the 5% would have started companies had they not been laid off cannot be known. But it seems unlikely that all or even a majority of the 5% would have. As another example, one of the laboratories at M.I.T. from which a substantial number of spin-off companies got their start was said to have had a policy of informing professionals when hired that their tenure would likely be limited to five years, and no longer, thus giving them cause to think about forming their own companies as ex-employment alternatives. When Harvard, observing the rise of IBM in computers during the late forties, decided that computer research was vulnerable to too much commercialism and consequently held back on its own computer research laboratory, An Wang, an employee of the laboratory and inventor of the magnetic core memory, began (in his garage) to work on an enterprise of his own, which he formally started in 1951. By 1982 his company, Wang Laboratories, had annual sales of one billion dollars and profits of ninety million.[31]

There are other patterns of "push"-inspired start-ups. An employee may find his employer uninterested in an idea, and so pursue it on his own. Jobs and Wozniak went ahead with Apple only after proposing it to their employers, Atari and Hewlett-Packard, respectively, and having it rejected. Another employee may be frustrated by a career plateau at work. Donna Harrigan quit as Regional Administrator of SBA in Chicago to start her own labor relations firm because "I wasn't getting anywhere with the government and my salary was fixed. Why should you be tied to a fixed income when your income can be the result of your own initiative?"[32]

Numerous examples of employees who went out on their own because they believed themselves more competent than their employers, are noted by Collins and Moore (1964), who studied mostly non-high-technology manufacturing start-ups. Still other illustrations of various push factors in high-technology firms have been cited by Draheim (1972, 25) and Susbauer (1972, 44). Cooper (Cooper and Komives, 1972) reported from interviews with 250 high technology founders that 30% had quit their prior jobs with no specific plans for the future, 13% had to leave because of layoffs, and another 40% said they would have quit even if they had not become entrepreneurs.

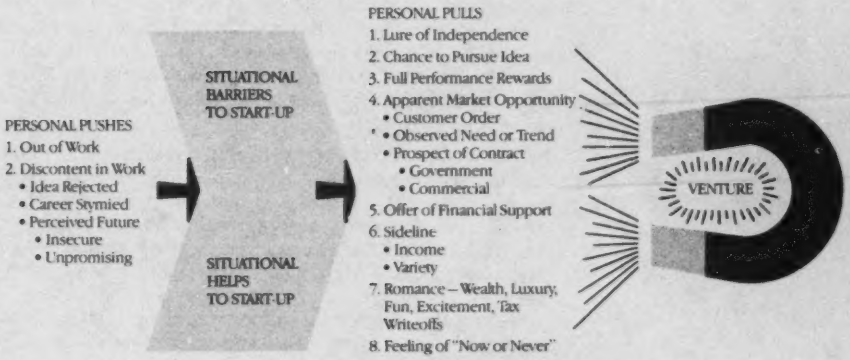
The need for a job when one is unemployed is also among the push factors noted by these studies. Its prominence appeared to be highest, however, in a study of 400 firms, of which 95% were in retailing, wholesaling, and services (Delano et al. 1966, 19, 22). Overall, it has been said that "research data show that individuals are much more likely to take action upon negative information rather than positive, and the data on company formations support that conclusion. Negative displacements are found to precipitate far more company formations than do positive possibilities, but, adher-

[31] *Forbes*, Feb. 15, 1982, 36
[32] *Seattle Times*, Feb. 14, 1982, H8.

ing to our notion of vector summation, it is the combination of both positive and negative forces that accounts for most major changes in life paths" (Shapero and Sokol 1982).

It would be difficult to reason that because pushes are important in precipitating start-ups, government policies should be adopted to produce pushes, since pushes are, by definition, negative and therefore generally undesired factors. It may, however, be possible to regard the tendency for pushes to produce start-ups as somewhat of a "silver lining" associated with both employee discontent and with unemployment. Adopting policies to facilitate start-ups can be a way to make the most of those pushes which come about naturally, and to make their negative side more tolerable.

FIGURE 4 PUSHES AND PULLS



C. "PULLS" As noted on the right side of figure 4, "pulls" also come in different forms. Some were noted earlier in connection with the notion of entrepreneurship as a path for *pursuit* of occupational happiness. Also, some pulls are simply the opposite of pushes. For instance, the push of not being able to pursue an idea with a present employer, "idea rejected," corresponds with the pull of being able to pursue it through a start-up.

No systematic study of the relative importance of various pulls has been reported, but it appears from individual cases that in all likelihood they depend to some degree on type of venture. The opportunity to pursue a new idea that an employer has turned down seems to be a major factor in the start-up of many technologically innovative companies. So too does the extension of financial support from prospective investors, who sometimes offer to set a person up in business, based upon their perception of a given business opportunity in combination with their judgment of the particular individual as being capable of forming a company to make the most of that opportunity. (Just who the entrepreneur is in that case, whether the individual selected to set up the company or the capitalist who seeks out and offers backing to that individual, is a moot point). In contrast, the lure of "sideline" or "moonlight"

income seems more frequently to be the pull that produces start-ups in fields such as handicraft manufacturing and small services, although there are always exceptions. (Airpac Airlines in Seattle began as a sideline seven years ago, and now runs fourteen planes.) On the other hand, the pull that produces start-ups in machine shops seems often to be desire on the part of one of the more competent workers to reap the full rewards of his performance, rather than having to share them with his employer (Collins and Moore 1964). Interestingly enough, the lure of wealth and luxury, although emphasized in some magazines and advertisements beamed at would-be entrepreneurs (as, for instance, *Entrepreneur Magazine*) seems not to figure heavily in the studies of those who examine the more successful entrepreneurs (Adams 1981; Bylinsky 1976).

In all cases, there has to be a genuine market opportunity or need if the start-up is to succeed. Sometimes it is an important pull for the entrepreneur, even though it may or may not have been very apparent in advance of the start-up. In the case of Apple, again, the founders had not planned to start a company when they obtained from their employers parts to make their first home computer. It was the friends who admired it and asked for duplicates who got the two founders to start making additional units and selling them. The ability to create market opportunities through purchasing policies make this start-up pull the most powerfully amenable to government policies, as will be discussed further along.

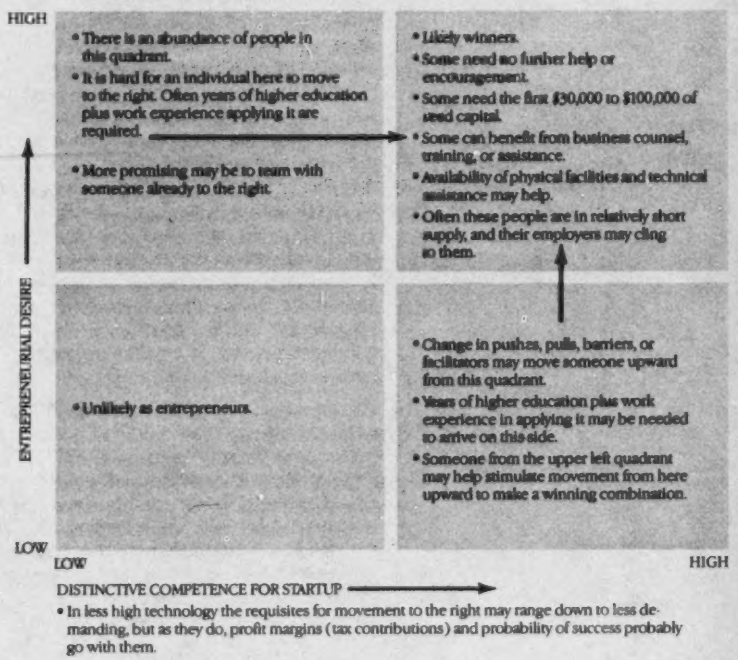
Personality factors probably have an important bearing upon which people are impelled to press ahead with start-ups under the countervailing pressures of pushes and pulls, and which people are not so impelled. Among the concepts advanced to explain entrepreneural drive are (1) the need to prove success to an authoritarian father (Collins and Moore 1964), (2) the need to achieve (McClelland 1961), (3) belief of the individual in an "inner locus of control" – ability to control one's destiny as opposed to being at the mercy of the environment (Rotter 1966), (4) ego drive and empathy (Swayne and Tucker 1973), (5) risk-taking propensity (Brockhaus 1980), as well as (6) other personal values (Brockhaus 1982). There have, moreover, been attempts to reshape the psychological makeup of individuals into greater conformity with at least one of these traits – achievement motivation – so as to make them more entrepreneurial, attempts which the experimenters claimed were successful (McClelland and Winter 1969). So far, these experiments have been confined generally to low-income individuals with relatively low educational levels in low-profit types of small firms.

For the other types of psychological traits there have not been such experiments reported. A difficulty in general seems to be that tests for presence of the traits are performed only *after* the entrepreneurs have gotten into business for themselves. So whether the traits impelled them to perform the start-ups or being in business caused them to display the traits afterward, has not been determined. Even with the tests of achievement motivation there are those who point out reasons for skepticism, so that one reviewer of literature on the psychology of entrepreneurs concluded: "Although much progress has been made in the past 15 years, no clear link has yet been

established between the personality characteristics of entrepreneurs and the success of their business ventures" (Gasse 1982).

D. COMPETENCE Having the psychological desire to start a business, regardless what combination of pushes, pulls, and inner drives may be producing it, is not necessarily enough. There must also be appropriate competence. There are many who desire much more fervently than the founders of Apple Computer did initially, for instance, to start their own companies, but who lack other requisites. Such would-be-but-probably-can't-successfully people appear among the hundreds of would-be entrepreneurs who turn out every year for various workshops and short courses on "how to start your own business." Many, if not most, who attend such courses which are offered by the U.S. Small Business Administration, various universities, and independent promoters, never fulfill the start-up desire which their attendance would seem to have indicated. It might be enlightening to have some systematic study made that would discover reasons why they do not carry through to start-up, and perhaps more importantly, to learn how they might be better helped to do so. To date such studies have not been done. It seems likely that one main obstacle will prove to be the lack of profitable business ideas among the attendees, and that another will be the lack of what business strategists call "distinctive competence" which, among other things, would produce such ideas.

FIGURE 5 ENTREPRENEURIAL DESIRE VERSUS CAPABILITY


HIGH
ENTREPRENEURIAL DESIRE
LOW
• There is an abundance of people in this quadrant.
• It is hard for an individual here to move to the right. Often years of higher education plus work experience applying it are required.
• More promising may be to team with someone already to the right.
• Likely winners.
• Some need no further help or encouragement.
• Some need the first $30,000 to $100,000 of seed capital.
• Some can benefit from business counsel, training, or assistance.
• Availability of physical facilities and technical assistance may help.
• Often these people are in relatively short supply, and their employers may cling to them.
• Unlikely as entrepreneurs.
• Change in pushes, pulls, barriers, or facilitators may move someone upward from this quadrant.
• Years of higher education plus work experience in applying it may be needed to arrive on this side.
• Someone from the upper left quadrant may help stimulate movement from here upward to make a winning combination.
LOW
HIGH
DISTINCTIVE COMPETENCE FOR STARTUP

• In less high technology the requisites for movement to the right may range down to less demanding, but as they do, profit margins (tax contributions) and probability of success probably go with them.

Distinctive competence implies the capability to perform effectively relative to competitors. It is something quite different than desire to start or operate a business, as depicted graphically in figure 5. By way of illustration Cooper (1980) suggested that "The owner-manager must be able to perform those key activities which are required for success. If it is a clothing store, the manager must be good at buying the right merchandise, as well as displaying, advertising, and pricing it. The manager must also be able to do the selling (or train others to do it) and handle the recordkeeping, paying of suppliers, etc."

Or in Apple Computer, a contrasting business, Jobs and Wozniak, although short on desire to start a company, did have the needed distinctive competence, plus the foresight to hire management that had the executive experience they lacked. Distinctive competence in their case exhibited itself as the capability for designing and building just the right product suited to a big market that others were not prepared to serve. To be successful, distinctive competence, whether possessed by the entrepreneur(s) personally or recruited through others, must be both sufficient in amount, and aligned with a profitable market opportunity.

Beyond that, the "business side" of marketing, finance, production, control, and leadership will also have to have their place in the lineup if the company is to withstand competition following start-up. One way for the would-be entrepreneur who lacks some of these elements to compensate can be to join forces with one or more others who have complementary capabilities. Another way is to acquire further skills through education, work experience, or both.

It is difficult to obtain an effective distinctive competence at will. This is, in part, because such competence tends to be very highly specialized relative to an industry—even to a particular product or service. Courses of formal instruction cannot be offered to impart such competence because their narrowness would make them uneconomic. Individuals must therefore be left with the task of working out their own programs for acquiring industry-specific distinctive competence. This is necessarily a hit-or-miss process for the individual, since it may take several years, and also because there is usually no way to foresee particular unfilled market opportunities that far in advance and thereby to happen to arrive with just the right capability at the right time.

An exception may be advanced technology, where demand and opportunity have stayed consistently high in recent decades, and where the lead-time involved in acquiring competitive levels of competence can be quite long. Technical schools take years to develop, technical training of the individual in those schools takes additional years, and beyond that industrial experience of several years is typically needed for one to become creatively productive and able to start a company. High technology entrepreneurships in such bastions as Route 128 and the San Francisco Peninsula, notwithstanding their rapid strides recently, took decades to develop. Shapero (Jan. 1981) noted three stages in their development of spinoffs: a first company formation phase, an accumulation and incubation phase, and finally a sustained growth phase, each of which typically takes years.

In industries other than high technology, the antecedents of entrepreneurship have not been examined similarly, and so are largely unknown. Probably they range considerably. For low-skill ventures the preparation needed is less, and for others, such as precision machining, it may be more like technology. One implication for national policy formulation is that further study of these industries to understand better their needs should be performed; a second would be that for those industries whose training needs involve long lead times, educational programs should be mounted sufficiently in advance of the manpower needs.

Another approach to stimulating more ventures by taking advantage of skills already available in industry, (still working from figure 5), could be to move more people who happen to have promising "line competence" (doers, as opposed to advisors) up into a higher level of desire for start-up. A difficulty with this approach is that people with such competence often have good jobs already, and are valued by their employers, who therefore take pains to keep them from leaving. Occasionally either discontent breaks them loose or else opportunities for start-up become too attractive to pass up, and the employees leave anyway to start what turn out to be successful companies. Hopefully, their productiveness in their own companies is then higher than if they had stayed employed elsewhere, but that too is a proposition in need of further study.

Other requisites beyond those mentioned thus far (the pushes, pulls, and distinctive or technical competence) have been said to number five: (1) a business idea with a profitable margin; (2) resources with which to start; (3) personal contacts needed to operate; (4) purchase orders from customers; and (5) time to perform the many tasks needed to carry out start-up (Vesper 1980-B). Those, and other factors beyond them which seem to have important influence on venture success, will be discussed together in the sections that follow.

V. OTHER INFLUENCES ON LEVEL OF SUCCESS

A. ASSESSING BENEFITS

Presumably, the value of benefits such as those listed earlier in table 1 is a function not only of the type of start-up, but also of the degree to which it succeeds. This degree may range, as suggested by the spectrum along the right side of figure 3, from "super" down to "flop." Assessing benefits is not a simple matter, since ultimately they must be weighed against costs, as will be discussed later. Both success and failure can be difficult to define and to measure. One author has argued, for instance, that the performance of an entrepreneur should not be judged on the basis of one venture alone, but rather on a "lifetime portfolio of start-ups," since failures sometimes prove simply to be educational expenses building toward ultimate success later on (Peterson 1981).

Attempting to generalize about which elements promote venture success is risky, for several reasons: (1) generalizations are usually subject to exceptions, and entrepreneurs are often exceptional individuals; (2) data are limited and spotty, with much more attention having been paid to entrepreneurship in some areas, such as high technology, and almost none to entrepreneurship in others, such as

trades and services; and (3) interpretations of such data as do exist invariably invite controversy (Timmons 1982, 133). Some attempts have been made and are presented in more detail elsewhere[33] Although subject to these limitations, however, some generalizations may still stimulate constructive ideas for entrepreneurially-supportive national policies. In brief, they include the following (B through J):

B. CHOICE OF BUSINESS

Whether "Small is Beautiful" (Schumacher 1973) or "Small is Dubious" (Florman 1977; Samuelson 1982), may depend principally upon what industry is being considered. The same may in large measure be true for entrepreneurship. After all, what a start-up usually becomes first is a small business.

Industries in which small businesses are most likely to thrive may be predominantly in services and trade. In manufacturing, Hosmer (1957) undertook to define general characteristics for identifying eight areas of opportunity wherein small firms would have the best chances (see table 7). Primarily they suggest small markets and areas in which close attention by management, and flexibility, are important. Another characteristic which might be added is where customers want an alternate source of supply and are willing to pay a premium to a smaller firm to become such a source.

It does not follow, however, that industries with these characteristics are necessarily ones of opportunity for new ventures, since they may already be occupied with existing small firms that are doing the job well enough. Cooper (1973, 63) suggested four more criteria for identifying industries ripe for high-technology manufacturing start-ups in particular: (1) rapid growth of the industry, (2) high rate of technological change, (3) low capital investment requirement, and (4) minor economies of scale. What industries will have such characteristics in the future and therefore be good candidates for start-ups is anybody's guess. Computers are certainly a strong one today, and will likely be for some time. A list of prospective opportunity areas in the software part of that industry alone has been offered by *Venture* and appears in table 7. Still other industries, beyond computers, have been nominated by *Newsweek*, and also listed in table 7.

The fact that venture opportunities do shift from some industries to others can readily be seen by comparing industries represented in the "Venture 100," (typically older start-ups) with the "Venture 50" (start-ups of the last ten years) lists. Both have substantial representations of high technology, although only one company of the younger list, Apple Computer, has grown fast enough to reach into the ranks of the more senior group. The older (on the average) group includes more companies in conventional technology. The younger list has almost no companies in retailing, construction, wholesaling, or diversified enterprises, all of which are present in the older group. The newer group has a much larger representation of companies in oil and gas development, which is not surprising considering the timing of the oil crises.

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[33]Refer to the following: (Bollinger et al. 1982; Peterson 1981, ch. 2; Timmons 1982, 132; Vesper 1982, ch. 2)

TABLE 7 AREAS OF OPPORTUNITY

A. FOR SMALL MANUFACTURING COMPANIES (Hosmer, 1957)

1. Limited national volume – breakeven too high for big firms.
2. Regional products – fast delivery helps.
3. Short runs – economies of scale don't help.
4. High precision – close attention by management is vital.
5. Small scale mass production – make-buy decisions favor several large companies buying from one or two small ones.
6. Uneven growth – filling in gaps when demand fluctuates widely.
7. Time of executives – customers require personal attention from the president.
8. Selling service – accomodating to special needs of individual customers requiring flexibility is important.

B. COMPUTER SOFTWARE OPPORTUNITY AREAS (*Venture*, Jan., 1982, 75)

1. Industry specific applications
2. Microcomputer software
3. Standard software for mainframes
4. Professional services and consulting
5. Data-base management systems
6. Office automation
7. Applications generators
8. Speech recognition
9. Educational software
10. Computer graphics

C. GROWTH INDUSTRIES OF THE FUTURE (*Newsweek*, Oct. 18, 1982, 83)

Occupation	*Estimated Employment By 1990*
1. Industrial-robot production	800,000
2. Geriatric social work	700,000
3. Energy technicians	650,000
4. Industrial-laser processing	600,000
5. Housing rehabilitation	500,000
6. Handling new synthetic materials	400,000
7. On-line emergency medical	400,000
8. Hazardous-waste management	300,000
9. Genetic engineering	250,000
10. Bionic medical electronics	200,000
11. Lasers and optical	200,000

That is not to say that choice of industry is the only key or even necessarily the principal one for venture success – only that it may be a big help. As Brown (1982, 458) has noted:

> The original business concept may be drastically altered before the company becomes a success. It is important to have a good business concept in mind as an excuse for starting the company, but the important thing to do is start the company. Once committed, capable entrepreneurs have a strong instinct for survival, and they may alter their course significantly to meet this overall objective of success.

What national policy can seek to do about this is to help support research that can provide the basis for new opportunity-ripe industries, and help potential entrepreneurs develop the awareness and capabilities for taking advantage of entrepreneurial opportunities that emerge, and to select within them particular specialized lines of business more likely to win for them.

C. EDUCATION

Education seems to be vital in some start-ups and less so in others. Studies in Boston (Roberts 1969) and Texas (Susbauer 1969) found that the median level of education was a master's degree. Perhaps this might be expected, since the start-ups were in high technology. But a range is easy to see. Robert Noyce and Gordon Moore, who founded Intel, held Ph. D. degrees—Noyce in physics from MIT and Moore in chemistry from Caltech. But Steve Jobs, co-founder of Apple, had dropped out before graduating in literature from Reed College. A study of Michigan high technology start-ups by Lamont (1972, 152) found that 90% of the start-ups that spun off from universities (principally doing consulting and testing) had master's degrees or better. Those that spun off from larger companies (principally to offer custom products and services) held only the bachelor's degree or less in 80% of the cases. A third group, which spun off from other spin-offs (and mainly offered standard products and services) held only the bachelor's degree in 85% of the cases. Still, in most cases it appears that technical training, at least to the bachelor's level, is important in most high technology start-ups.

In nontechnical ventures the picture is also mixed. The earlier study of Michigan entrepreneurs, mostly in non-high-technology manufacturing, by Collins and Moore (1964) found that many of the entrepreneurs had not attended college. Parallel to this finding that earlier entrepreneurs were less schooled, was the observation of Stacey (1980) that "A most revealing characteristic of British entrepreneurs is that, until recently, few have had the benefit of public (private) school education, and even fewer were exposed to attending a university." A later study by Delano et al. (1966) found that more education was correlated positively with venture success in mainly trade and service oriented businesses. Still later, a study of Pittsburgh start-ups (Thorne and Ball 1981) found that in a sample of mostly manufacturing (59%) and service (21%) firms, 86% had some college degree (14% doctorates; 21% master's). Most (85%) had majored in engineering or science (undergraduate)—and 59% engineering or science, or 36% business, at graduate level.

Despite the mix of results and the fact that much additional clarification might be helpful in sorting out just what types of training are most helpful with which types of ventures, it appears that there is a fairly strong case amidst the data for the value of professional education as a support for entrepreneurship, especially for engineering and science training, but also for training in business. National policies clearly can play an influential role in these fields. They have done so substantially in engineering and science through research programs and various types of fellowships.

But they have not done so in business education, presumably because the government has assumed that business can take care of itself in the free enterprise system. In fact however, the system does not leave enterprise to be free, as will be discussed further on. And existing business typically is not particularly inclined to support programs for the development of entrepreneurs which would, after all, simply introduce more competition, something businesses do not

desire, even though it may be good for the economy as a whole. Hence, there may be a national-interest role for policies that strengthen the entrepreneurial component of business education, as a counterpoint to the business community's support of established-business-oriented business education.

D. WORK EXPERIENCE

Most entrepreneurs do not start companies directly following school, but rather after a period of work experience, which is also a vital element in their preparation. Just why experience is important and how it operates in facilitating start-up has not been extensively researched, but has been discussed at some length elsewhere (Vesper, 1980-B, 36; Collins and Moore 1964). Some data have been gathered on general types of prior work experience. They seem to indicate that both education and work experience together form the most promising background (Hoad and Rosko 1964); and that experience without education is, perhaps surprisingly, more likely to be associated with failure than education without experience. Cooper and Bruno (1977) reported from a study of 250 high-technology start-ups that among those which had, over the preceeding decade, grown to sales of $5 million or more, 80% of the founders had each, before starting, gained experience in a company whose market and technology was similar to that of the start-up. Among those firms of the sample which had been discontinued over the same period, only 52.8% had such similarity of prior experience. Another high-tech start-up study (Lamont 1972) reported that 83.7% of Ann Arbor founders drew directly upon their prior technical work experience.

It has also been found that variety of experience in different types of work functions (e.g., selling, finance, production, etc.) seems to be preferable to a single line of activity (Hoad and Rosko 1964), and also that prior start-up experience is more likely to lead to success than first-time start-up (Delano et al. 1966). Among Pittsburgh start-ups it was found that 76% of the founders had performed prior start-ups (Thorne and Ball 1981).

An especially important factor, in the creation of high technology start-ups in particular, seems to be the entrepreneur's prior experience in an "incubator organization," the prior employer immediately preceding start-up, as will be discussed further. For some reasons not as yet well studied or explained, some incubators lead to many start-ups, while others produce few, and most established companies yield none.

In seeking to shape national policies that will make more successful start-ups likely to occur, the importance of education and experience should be recognized. Policies which support and encourage more professional education tend to work in the direction of more successful entrepreneurship, while those that seek to generate more start-ups among people lacking in education, are much less likely to succeed. Policies which seek to facilitate the transferral of people with solid work experience into entrepreneurial attempts are more likely to help entrepreneurship, while policies that dampen job transfers and tend to freeze experienced people in place, may also dampen start-ups.

E. TEAM COLLABORATION

The odds of venture success seem to increase substantially with team collaboration. For instance, Cooper and Bruno (1977), reported that 83.3% of the high-growth start-ups in their sample had begun with multiple founders, whereas only 53.8% of the discontinued ventures had. Roberts (1972) also reported a correlation between success and multiple founders, while Tyebjee and Bruno (1982) found that among 182 California ventures only 31% started with a solo founder. The average number of founders in the Pittsburgh sample of fifty-one start-ups by Thorne and Ball (1981) was two.

Venture capitalists have learned these correlations from their own experiences, and typically will not consider investing in a start-up unless it is being founded by a team, with one, clear leader, but nonetheless a team. Moreover, they want a team that has balance between the different departments of a business – engineering, sales, finance, accounting, production, and so on.

F. START-UP CAPITAL

A clear necessity in most ventures, start-up capital, typically comes predominantly from founders, their personal borrowings, and "friendly money," which includes such sources as family, social acquaintances, and sometimes even customers, suppliers, and employees. Although for non-high-technology start-ups the breakdown among these sources has not been studied, it probably very rarely includes any professional investing by venture capital firms. Even in high-technology start-ups, where such investors specialize, their contribution to overall start-up capital appears to be quite small, less than 5%, despite the fact that it may be large in any given venture, and often seems to figure importantly in those that are most spectacular.

In their study of California high-technology start-ups, Tyebjee and Bruno found that personal savings plus bank borrowings of the principal founder accounted for 76% of the start-up capital, while Thorne and Ball found that fraction to be 73%. In both studies, most of the remainder came from partners, family, and friends, and only a small minority from venture capital firms or other outsiders.

Success of the venture was found to be correlated positively with the amount of initial capital, according to Roberts (1972), although whether higher capitalization was a cause or a result of the quality of the venture was not determined. A partially contrasting correlation was found by Tyebjee and Bruno, who reported a U-shaped relationship, with highest success, measured in total sales, being associated with an immediate range of start-up capitalization, and lower success occurring where capitalization was lowest and highest. Reasons for that were not conclusively explored either. Thorne and Ball (1981, 79) observed that "After-tax profits were related to total investment for the manufacturing firms. These data obviously show the importance of small firms being adequately capitalized."

National policies clearly influence the amount of start-up capital available, not only by affecting private sector capital markets in general, but by such programs as specific tax policies on capital gains and the financing of Small Business Investment Companies. Recently there has been a great expansion of available venture capital. However, a serious untreated gap still seems to be unfilled for the small, but important, minority of start-ups that potentially will interest

venture capitalists – the seed capital bridge needed between the time when the entrepreneurs have used up their personal resources and the time they are big enough to interest such investors, who tend to prefer investments in the range of $150,000 and above, but not below. Some remedies for this will be suggested later, in the recommendations.

G. MANAGEMENT PRACTICES

The cliché among those who invest in new ventures on a professional basis is that "a grade B idea with grade A management is a better bet than a grade A idea with grade B management," although grade A on both is clearly preferable. Just what produces grade A management and how it can be assessed before the venture, is a matter of art rather than science, but it seems to be heavily dependent upon the "track record" of management's prior experience. Having succeeded with something similar to the new venture while working previously for another employer is a favored indicator among venture capitalists. Hence, to make the most of this aspect of entrepreneurial chemistry, national policies must contemplate the objective of stimulating ventures among people with prior managerial experience, including those who already have excellent jobs, not just those in need of them. It would also seem logical to contemplate policies that can make the most effective counsel and competent collaboration, as well as useful managerial training, available to aspiring entrepreneurs.

H. MARKET CONTACT

Either through work as a salesperson, through having some other prior job with a market interface (such as applications engineering), or through a hobby, market contact seems to be an important advantage to many entrepreneurs. Susbauer, for example, noted from his study of Austin, Texas start-ups (1972, 40) that most began with a guaranteed first customer. Shapero (1972, 94) observed that as a given geographical area began to "take off," entrepreneurial start-ups were facilitated by the increase in available local customers. Conversely, a study of Maine industry noted that absence of local markets was the principal barrier to entrepreneurial development (Upthegrove and Bernstein 1976, 75). Cooper further observed that "Although transportation costs may not be very important for many high-technology products, the ability to work closely with customers is sometimes essential" (Feb. 1973, 62).

Clearly, physical proximity to customers is not always crucial, as illustrated by the fact that Tektronix, the world's leading oscilloscope maker, started in a suburb of Portland, Oregon, at the end of World War II, with no other electronics industry around it. More recently, computer software companies are being started all over the country, including isolated rural and even wilderness areas.[34] But knowledge of customers, their individual needs and how to fulfill them, is still vital and often enhanced by proximity.

I. CONTACTS IN GENERAL

Contacts, including those of the market, seem to be an important, if not essential, part of the formation of nearly all ventures. (Hosmer, Cooper, and Vesper 1974, 271; Vesper 1980, 98). These include not only customers, but also professionals (Delano et al. 1966), suppliers,

[34] *Venture*, Mar. 1982, 34.

and any number of others. Upthegrove took note of this need with respect to high-technology industries in his 1977 testimony:

> Across the United States, and in other nations, there are many locations or regions where innovation-based industry is a significant, if not dominant element of a local economy. Observation of such situations discloses, first, that innovation, technology transfer, and new enterprise formation are processes, not events. Further, it is apparent that the essential mechanism by which these processes progress is the constructive or supportive interaction of individuals, usually in pairs. These interactions occur in a framework of information networks of people and linkages. The networks exist—and change—for a variety of reasons, without, in general, organization or documentation. Rather than being institutionalized, the networks are a consequence, or a symptom, of a pattern of behavior—a pattern of communication and exchange of ideas, of specialized knowledge, and of sources of help, among individuals in education, technology, finance and business and industry.... [The role of a university center has been envisioned as] an effective catalyst and stimulant to strengthen and expand such informal networks . . . by reinforcing existing linkages and by taking the initiative to create new linkages.... Only a long-term, sustained, multi-faceted effort can achieve the pervasive effects required to create an environment in which innovative entrepreneurship is widely and successfully practiced, producing a self-sustaining sort of economic ferment, without the need for continuous large scale priming of the system.

J. INITIATIVE AND HARD WORK

Initiative and hard work seem generally to be requisite in accomplishing start-ups. Nobody has systematically measured these attributes and determined the extent to which they led to, as opposed to being caused by, the act of start-up. There are probably exceptions, but common observation seems to indicate they are generally a part of the process, and an important one in helping entrepreneurs scale the barricades of competition to gain commercial entry.

Based upon his experience in cultivating new ventures at the Utah Innovation Center, Brown (1982, 458) illustrated the importance of dedication with the following example: "U.I.C. experience with the gasoline-electric moped demonstrated that employees being paid to develop a concept do not have sufficient incentives to force a successful solution. Committed entrepreneurs have few alternatives besides success, therefore, they find ways to make the project a success."

There are at least two things national policies can attempt to do for would-be entrepreneurs to help them make the most of such success-related factors in their venturing. One is to let the importance of these factors and how they matter become better known through support of publication and educational programs. The second is to help extend understanding of them through encouragement and support of research on entrepreneurship. Beyond that, national policies can also help cultivate a climate more conducive to entrepreneurship both through direct action and through encouragement of helpful state and regional policies.

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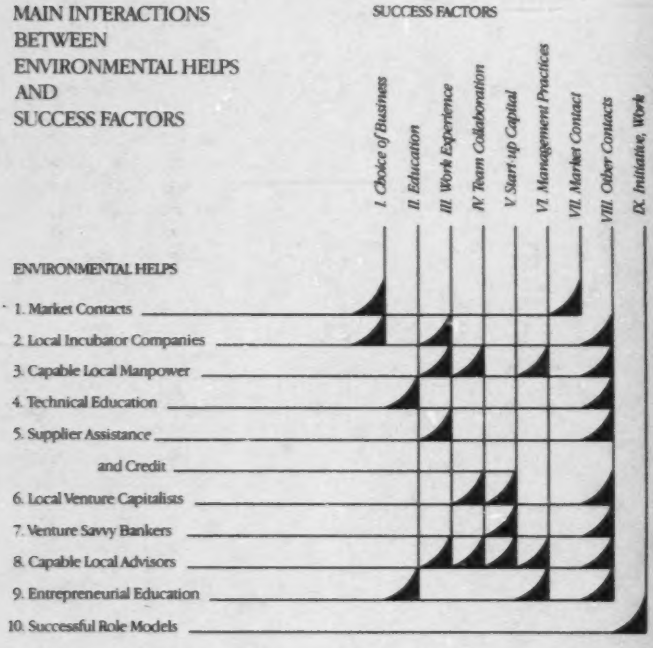
VI. ENVIRONMENTAL HELPS

A. HELPS AND SUCCESS FACTORS

The terms *environment* and *climate* are often used synonymously in discussions of entrepreneurship to indicate that situational factors can have an important bearing on the extent to which entrepreneurship happens. Some of these have been seen in the preceding section. A summary of much of the literature and listing of environmental factors has been presented elsewhere (Bruno and Tyebjee 1982, 288). Herein these factors will be sorted into two types: "Helps," which will be discussed in this section, and "Barriers," which will be discussed in the next.

FIGURE 6 MAIN INTERACTIONS BETWEEN ENVIRONMENTAL HELPS AND SUCCESS FACTORS



"Helps" can be grouped for convenience into ten categories, such as those listed across the top of figure 6. It should be noted that certain of the helps tend to contribute to certain success factors, and this is also indicated schematically by intersection points in figure 6 which lists Success Factors down the side to form a cross-grid with Environmental Helps. For instance, the second success factor, "Education," can be served by two environmental helps, number four, Technical Education, and number nine, Entrepreneurial Education.

Just which environmental helps are most important to what types of enterprises and why, is not a well-developed area of study. Examinations to date have concentrated mainly on high-technology industries. Likely most of the helps would apply to other types of businesses

as well, but that remains to be investigated. In summary, they are as follows (B through K):

B. MARKET LINKS

The question of just how close market links need to be, what market intelligence a typical entrepreneur needs, and how it all depends on the type of business, seems to cry for more study. Based upon a fuller understanding, it might be possible to devise better ways of making market intelligence available to facilitate more start-ups. In one way it seems plausible that more could be taken for granted about the market in high-technology start-ups, since they can operate by way of "technology push," and history gives reason to have some faith that technical advances will find customers. On the other hand, it is well-known also that by far the majority of technical advances, such as those on which thousands of patents appear, and others which come out of numerous research programs of both the government and industry, do not find commercial application.

Cooper and Komives (1972, 110) noted that in 85% of the high-technology start-ups studied, each of the 85% used a technology similar to that of the company from which the individual entrepreneur came in prior employment. Only 64% of the markets, however, were similar. But it was not clear what links the entrepreneur may have had to those or to the remaining 36% markets (dissimilar) before start-up. Lamont (1972, 153) reported that among the seventy-six midwestern high-technology start-ups he studied, "85% reported some market contact related to the proposed business venture prior to beginning business." But just how close those contacts were or how they worked in the start-up was not reported.

Situations where prior market links would seem likely to be less important would be industries where there is a clear performance advantage, as might occur in high technology, or where the company's product or service was of a standard or commodity nature selling mainly on price, so that the start-up could break in on that basis. In lines of business other than that it seems quite possible that prior market links would be of greater importance.

One thing the federal government might well consider is how its procurement systems link up with prospective entrepreneurs, not just with small businesses. It has been suggested by Rothwell and Zegveld (1981, 50) that procurement represents the most powerful way in which government affects innovation. Roberts (1972) also found procurement by the government to be important to start-ups. Draheim (1972, 26) noted that not only could more government spending produce start-ups (e.g., those in medical products which sprang up in Buffalo when Medicare spending began), but reduction of government spending can also produce them, illustrated by the spin-offs that came from Bell Aircraft when contracts were terminated following the Korean War.

How such influence could be deliberately used to stimulate start-ups as part of a coordinated strategy could bear further investigation. Action has already been taken to reach small business with government procurement opportunities through advertising and conference. More thought might suggest ways of reaching not only small businesses, but also potential entrepreneurs who might start businesses as well.

Especially worth considering would seem to be a government strategy of substantially increasing R&D spending at universities in physical sciences and engineering, particularly at universities which, like MIT where government R&D spending has seemed to correlate with spinoffs, have policies of encouraging faculty industrial interaction and entrepreneurship.

C. LOCAL INCUBATORS

Organizations for which entrepreneurs worked prior to start-up have been identified as a very highly important element of an entrepreneurially productive environment. Cooper (1973, 59) has pointed out that spin-off rates vary widely among different organizations. Many that have no entrepreneurial spin-offs may employ numerous engineers and scientists (government R&D establishments, for example), while others (e.g., Fairchild Semiconductor) produce many spin-offs. In Palo Alto, smaller firms of less than five hundred employees spawned ten times as many start-ups as larger firms. Cooper and Komives also noted (1972, 118) that smaller divisions of large companies are more prolific in terms of start-ups than large divisions, and that smaller laboratories are more prolific than larger ones. Shapero (1972; 78, 80, 87) noted that attracting large branch plants to an area is not a very effective way to stimulate start-ups there, a factor that runs contrary to the hopes of many chambers of commerce. Paradoxically, there is some indication that *less* well-managed rather than well-managed companies may contribute more to their communities entrepreneurially. Cooper (1973, 63) has noted that characteristics of most prolific incubator firms indicate that they

(1) have a smaller number of employees, (2) are product-decentralized, rather than organized by function, (3) recruit very capable, ambitious people, and (4) are afflicted with periodic crises rather than being relatively well-managed. At the same time, both Susbauer (1972, 40) and Hoffman (1972, 40) as well as Shapero (1972, 124) have suggested that an employer attitude supportive toward entrepreneurship may be effective encouragement to start-up.

The nature of the host industry may be the most important factor. Draheim (1972, 25) identified fast-changing technology and relatively low capital intensity as important elements in the semiconductor electronics start-ups he examined. Summarizing the findings of a Dutch study of innovative companies in Holland, Bollinger et al. (1982) noted that the clustering variable was not geography, as in the United States (e.g., Boston's Route 128, and the San Francisco Peninsula), but rather type of industry. Studies by Utterback and others have similarly emphasized the nature of the industry as a prime variable. Today's entrepreneurs may be clustering in one set of industries, but those of yesteryear, and more importantly perhaps those of the future, must be looked for in other industries.

The role of universities as incubators in their local areas has also been examined to some extent. Shapero found that universities are typically not as catalytic or necessary to the entrepreneurial development of a region as is often supposed. Among twenty-two areas where technical start-ups had proliferated, only seven had major universities, according to his data.

Among those universities which seem to have been prolific as direct incubators, M.I.T., particularly in its laboratories, seems to have been most prolific (Roberts 1972, 22). This does not particularly pertain in M.I.T.'s innovation center. Other universities have also had their direct spin-offs. Rodenberger (1981) examined spin-offs from Texas A. & M. and found that 33 which occurred mostly between 1960 and 1980 generated revenues for the local economy of $90 million per year, as compared to the university's contribution of $240 million. Doutriaux and Peterman (1982) identified 42 spin-offs from Canadian universities. The Universities of Michigan (Lamont) and Texas (Susbauer 1972) have spawned some. So has Stanford University, though not as many as is sometimes supposed. Cooper (1972) found that only 6 of 243 Palo Alto start-ups were spin-offs from the university. When faculty members are involved in the start-ups they are usually working only on a part-time basis. Rarely do they give up university positions to become full-time entrepreneurs (Roberts 1972).

Some university innovation centers, such as those at Carnegie-Mellon, and the Universities of Montreal and Utah, have produced successful spin-offs through deliberate efforts (Brown et al. 1981; Bernier and Hay 1981; Bauman 1981). Others, such as those at Oregon, and M.I.T., seem to have been less successful, possibly because they did not place as much emphasis on entrepreneurship. One of several conclusions drawn by Brown (1978, 458) from the Utah experience was that "An innovation center can perform most satisfactorily by assisting dedicated, committed entrepreneurs, rather than by becoming a development center."

Edward Roberts of M.I.T. and Donald Peters of EG & G, Inc. recently reviewed the subject of technology transfer from universities to industries,[35] and offered several other suggestions. These included having the university encourage more research involving market-oriented projects, and more collaboration between "idea havers" of the university and "idea exploiters," not just in the laboratories, but in the academic departments as well. The review of their findings noted, however, that "little is known as to why extensive business development takes place around some technical institutions but not others of comparable excellence, nor how such a spin-off effect can be most successfully encouraged."

D. CAPABLE LOCAL MANPOWER

The need for technical competence in a start-up was noted earlier. Draheim (1972, 25) listed the existence of a technical pool of labor as the first of several environmental factors important to start-ups, illustrating it with the observation that experience in developing hearing aid electronics had provided talent for computer industry start-ups in Minneapolis/St. Paul. Shapero (1972, 70) made the point somewhat differently. "When the question is posed, 'Where are the potential technical company formers to be found?' it is obvious that they must be men with some technical skill or involvement. . .who are occupied in some undertaking or activity in technical professional capacity." Cooper further noted that "although attractive living condi-

[35] *Bay State Business World*, Aug. 11, 1982, 1.

tions may attract technical people to an area as employees, they rarely attract men who are in the act of founding companies" (Cooper 1973, 62). Thus, the talent must either be there or move there for the start-up to happen, but typically it does not get there through moving for the start-up.

The implication seems to be that policies should aim at building a *local* manpower pool through either local educational institutions or existing local companies, most effectively small ones as noted above, from which the start-ups will then spin off. The way it has worked in the past, however, may not be the only way that it can work. Hence, it may be worthwhile to try some experiments aimed at attracting potential entrepreneurs to an area where start-ups are desired. The matter of having an additional capable manpower pool there from which they can expand their companies beyond start-up needs to be considered in such an approach. Potential differences between high-technology start-ups and other types may also have a significant bearing on what is needed in the way of manpower locally. But the need for competence is not likely to go away, regardless of the industry.

E. TECHNICAL EDUCATION AND SUPPORT

Although the performance of schools as company spawners is mixed, as just noted, and schools are limited as to what they can provide as compared to working experience in terms of competitive commercial competence, it also appears that they have a substantial capability to contribute to the entrepreneurial start-up rate in some industries, particularly those in high technology. Some universities seem to be much more start-up-productive than others, and the experimental NSF-sponsored innovation produced some start-up successes.

Unfortunately, there has to date been little in the way of reported systematic study of just why the results have been forthcoming in some cases and not in others. Shapero (1972) suggested that having a university administration that actively encourages start-ups, and performs a substantial amount of contract research, may be important factors in creating academic spin-offs. If so, then experimentation with federal research policies which seek to combine these two ingredients in test settings might be instructive.

Aside from technical manpower, and developing technology through research that may lead to spin-off products, science, engineering, and medical schools can also provide use of facilities, either through some sorts of innovation center arrangements, or on a rental basis, so that a start-up enterprise can conduct laboratory or developmental work without having to invest in facilities of its own. Technical faculty, staff, and students can also provide services on a consulting basis to augment know-how of the enterprise. That is not to presume that such activities would necessarily be either appropriate or approved by *all* schools, but they would be at *some*, and that is an area where experiments with the schools might be encouraged.

Trial of additional experimental types of innovation centers such as those sponsored by the NSF (National Science Foundation) which would draw upon what was learned from the prior approaches and explore still others, would seem worthwhile, as would more systematic study of differences between the spin-off performance of schools

and why they occur. Monitoring of the performance of university experiments being tried in other countries, such as the innovation centers in Canada and the entrepreneurial training programs in England, should be an economical way to extend understanding of what universities can best contribute to entrepreneurship.

F. SUPPLIER HELP

Suppliers also can, and do, help start-ups. In their study of Pittsburgh start-ups, Thorne and Ball (1981, 74) found that suppliers were second most frequently mentioned, behind only customers (by 41% versus by 51%), as a significant help among the fifty-one entrepreneurs queried.

G. LOCAL VENTURE CAPITALISTS

Local venture capitalists have clearly played vital roles in the success stories of Boston's Route 128 and the San Francisco Peninsula, as well in countless start-ups, mostly in high-technology, elsewhere (Draheim 1972). They have served not only to provide financing, but also as important advisors on boards of directors, and as consultants. Informally they have worked with entrepreneurs during start-up and beyond (Cooper 1973, 62). However, as noted earlier, their role overall in most ventures has been substantially smaller than the prominent attention given to their few most spectacular successes might suggest. That may be simply because there are not more venture capitalists available or maybe not (Dizard 1982; General Accounting Office 1982). The whole question—the extent to which venture capitalists are the cause as opposed to the result of successful ventures is one to which more investigative attention might be profitably directed.

H. VENTURE-SAVVY BANKERS

Despite the notoriety given to venture capitalists in financing the many spectacular and glamorous start-ups, such as Amdahl, Apple, Intel, Osborne, and others, they play no role at all in most start-ups. Bankers, however, even though they are not in the venture capital business (because the nature of banking limits the upside profit potential through effective ceilings on interest rates, and provides maximum incentive to avoid risk), do play a part in the financing of most ventures, as noted earlier. A study by Shapero et al. (1969) found, moreover, that bankers range widely in their experience and consequent capability for understanding and responding to the special needs of entrepreneurs. For example, bankers less experienced with start-ups would respond to loan requests from entrepreneurs either by rejecting them outright or by placing very heavy emphasis upon collateral as backup for any loan. Those more experienced with ventures in areas of the country where more venturing took place might, in contrast, even make unsecured loans, but would minimize risks by structuring the deal to maximize the probability of venture success through such means as requiring a competent balanced and influential board of directors, good reporting practices, maintenance of healthy balance sheet ratios, and so on.

Following Shapero's findings, an obvious line of action to improve entrepreneurial performance nationally would seem to be the providing of more and better information and training for bankers so as to increase the proportion of those who would be capable of effectively nurturing start-ups. This could be done through the collection and

dissemination of data by the government together with educational programs at universities, by bankers' associations, and by other public and private training agencies.

I. CAPABLE ADVISORS

Advisors to start-ups are found among other professionals also. Delano et al. (1966) noted in particular the value of guidance often given start-ups by bankers, lawyers, and accountants as well as by suppliers and potential customers. The role as advisors played by types of contacts other than these professionals, such as other entrepreneurs, has not been systematically studied, but anecdotal remarks of entrepreneurs have indicated that they are often highly important.

J. ENTREPRENEURIAL EDUCATION

There are several forms of entrepreneurial education. One, for example, has been specialized training aimed at getting financially depressed areas or groups up to higher economic performance levels through inculcation of more entrepreneurial behavior (McClelland and Winter 1969; Timmons 1975, 265). Another educational form, this in England, was aimed at residents of Manchester (Watkins, 1982). It consisted of an eleven-day course followed by fourteen weeks of project work. Out of the class of nineteen came a remarkable result: of sixteen class members being in business for themselves, ten months later. A third form: "typical" college courses in entrepreneurship. Those have had relatively little follow-up. A study of Babson graduates by Hornaday and Vesper (1981) examined two matched groups six to ten years after graduation. One group had taken entrepreneurship courses: the other had not. It was found that among those who had not, 17% (out of 318) had their own companies. For those having had one undergraduate entrepreneurship course the figure became 28%, and for those with a graduate entrepreneurship course it reached 34%. A limited proportion of the entrepreneurship course alumni (23 students out of 329) had taken both undergraduate and graduate entrepreneurship courses, and among that group of 23, 12 students, or 52%, were found to have attained ownership of their own companies (Hornaday and Vesper 1981, 115). At another school a review of venture design projects in an entrepreneurship course found that out of 72 projects over a ten-year period 17 (24%) had resulted in start-ups, of which 5 (29% of the 17) had failed (Robidoux 1981, 167).

Other forms of education aimed at entrepreneurship have included university extension courses for local residents interested in the subject—commercially run programs, such as those of the Center for Entrepreneurial Management, and the Tarrytown School in New York, and Project NEED IT in Ohio. Each of the National Science Foundation Innovation Centers has incorporated courses on entrepreneurship. Entire programs of study consisting of several courses comprising "entrepreneurial majors" have been introduced at a very few universities, among them Babson College, Baylor University, the University of Pennsylvania, and the University of Southern California. At precollege level, educational programs have ranged from economics education to free enterprise education to hands-on projects such as Junior Achievement. But almost no systematic study to evaluate impact (in the longer term) upon actual entrepreneurship has been

undertaken. Characteristically, the impact seems to be quite positive, but we don't know by how much under any given set of conditions, let alone one set of conditions as opposed to another. The value of research to assess results of these programs would seem to lie mainly in its capability for pointing out which ways of operating them were most effective. On that basis a national policy of supporting such research would seem to be a constructive measure.

K. SUCCESSFUL ROLE MODELS

Other entrepreneurs who have gone before, and demonstrated by example how start-up can be done and that it pays off, serve as role models. Thorne and Ball (1918, 73) reported from their interviews with Pittsburgh entrepreneurs that role models seemed to have been an influence in 23% of the start-up decisions. Others who have studied substantial numbers of high-technology start-ups, such as Draheim (70) and Shapero (in Cooper and Komives 1972, 80) have cited role models as being important. A parallel finding has indicated that entrepreneurs more than nonentrepreneurs tend to come from families where the father was self-employed (Roberts and Wainer 1968; Shapero 1971).

It has also been observed that an absence of role models seems to be a hindrance. Cooper (Cooper and Komives 1972, 115) noted, for example, that there were many electronically trained engineers in Kokomo working for Delco who would like to start their own companies, but who lacked local examples and did not do so.

Probably the greatest contribution by far from role models for potential entrepreneurs to observe has been made by the media, especially local newspapers, which have written articles about local successes. So, too, on a broader geographic scale, have magazines such as *Venture, Inc., In Business,* and *Entrepreneur,* which not only publicize the most outstanding entrepreneurial successes, but also make a specialty of delving into and reporting how entrepreneurship becomes an accomplished fact. Academic research, some of which is underwritten by government grants, adds to that information. An additional medium which apparently has not been much used but which might add appreciably would be to make videotapes of and about successful entrepreneurs more readily available, particularly in geographical areas where there are few entrepreneurs available locally. This might be done through both schools and libraries.

VII. BARRIERS

A. NEED FOR BETTER UNDERSTANDING

Further aspects of the chemistry of entrepreneurship can be observed upon consideration of the barriers that tend to inhibit its occurrence. Twelve of these are listed in figure 7 with arrows indicating how some of the environmental helps just discussed may impinge to reduce some of the barriers. Just what stops a would-be entrepreneur from proceeding with a venture which he or she might do but does not do has been given little or no formal study. Based in part upon informal follow-up of those who attended a University of Washington series of entrepreneurship symposia for people wanting to start companies, the list in figure 7, was provided.

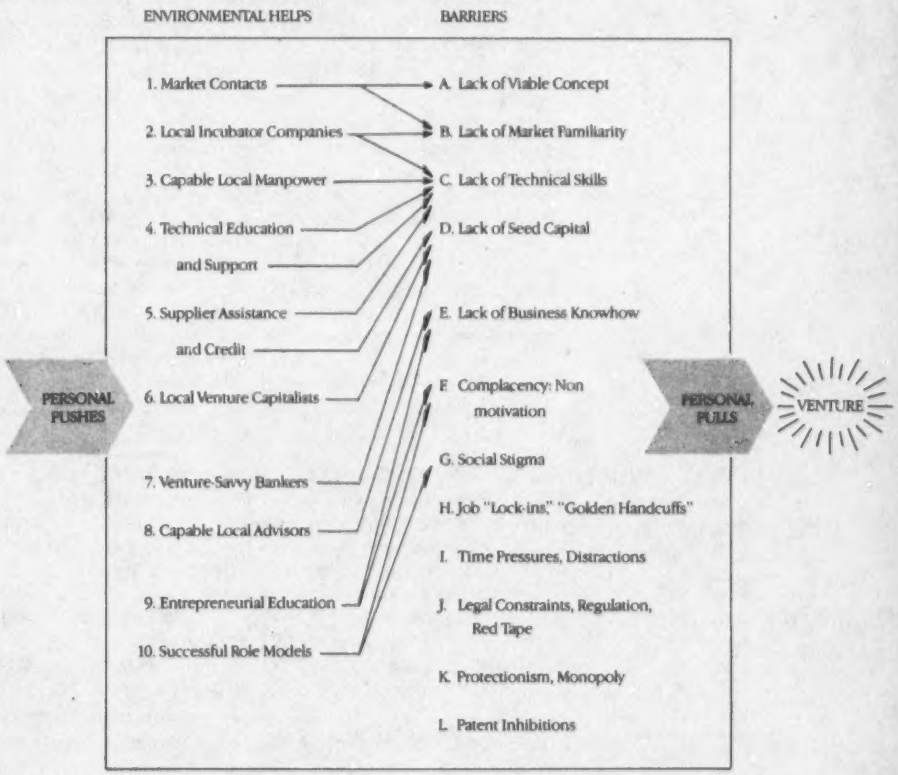
To follow up more would-be entrepreneurs and study further the barriers that inhibit them could be a fairly straightforward research

task. Some such people can be identified through conferences, bankers, venture capitalists, and other professional advisors. Still others could be sought out through advertisements, and this device could provide a better understanding of what all the barriers are to various types of latent entrepreneurs, how those barriers to entrepreneurship might best be lowered, and what that might cost. But it would take work, which in turn would require support. Providing such support would seem a reasonable option for the government and/or private foundations to consider.

The first five barriers listed in figure 7 have already been discussed to some degree in connection with environmental factors that help overcome them (B through M, following):

B. LACK OF A VIABLE CONCEPT Probably the main obstacle to most would-be entrepreneurs is lack of a viable concept. They lack a product or service with sufficient competitive edge to break into the commercial arena. The most direct action government can take to cope with this barrier is to

FIGURE 7 BARRIERS TO ENTREPRENEURSHIP



become a customer for new product and service ideas through its procurement programs. It already does this through such programs as the National Bureau of Standards' Energy Related Inventions Program, plus Small Business Innovation Research Programs of the National Science Foundation, and the U.S. Small Business Administration. To date, however, those programs have been directed toward small business in general, without a selective differentiation or singling out of entrepreneurial start-up in particular. The addition of that factor of differentiation is something to consider.

Another way to attain more viable concepts and have them attempted is simply to have more people looking for them and trying out entrepreneurial ideas in general. All activities supportive and helpful to the pushes and pulls of entrepreneurship (discussed earlier) could help bring that about.

C. LACK OF MARKET KNOWLEDGE

Lack of market knowledge or access can impede discovery of good concepts and ways of introducing them. People who work deep inside large organizations often suffer this lack, because their work experiences limit their vision to only internal parts of the organizations they work for, and not to potential customers on the outside. An exception to this can occur when those employees are working on technological frontiers whose advances (e.g., cheaper and/or better equivalents of existing products, or next generation improvements, etc.) can reasonably be *presumed* to have markets outside. The problem then may be that the employee's knowledge of the next advance may legitimately be claimed by his or her employer as proprietary.

Those with the best market or technical frontier knowledge often have attractive jobs already. Stimulating more of those among them who can legitimately spin out and try ventures may be possible if the incentives for entrepreneurship are set up high enough. Or alternatively, it may be possible to provide better market intelligence to other potential entrepreneurs for whom that aspect of venture know-how may be the missing ingredient. This might perhaps be done through new computer data bases or through cooperative arrangements, perhaps with manufacturers' representatives who encounter product needs not met by their principals.

Communication of market intelligence with regard to government needs should also be worked on for the benefit of entrepreneurs. An SBA report in 1980 noted that "The difficulty with selling to the government is that most small firms do not know where to go, to whom to speak, or what to do to market their products" (U.S. SBA, April 23, 1980, 8). For entrepreneurs who do not yet have small firms the problem is likely as great or greater than for those who already have small firms. Hence, the recommendations for action to help small business in this regard, mainly by making more information about government needs available, should apply as much or more to the goal of encouraging entrepreneurship.

D. LACK OF TECHNICAL SKILLS

A problem discussed earlier, lack of technical skills, could be ameliorated through cultivation of more incubator (typically smaller) companies. It can also be offset by the providing of more technical education, although usually that takes considerable time, and must be augmented by work experience, which takes still more time.

Deliberate search for innovative approaches, including cooperative industry-school arrangements aimed specifically at providing the skills for innovating, such as programs now under test in the National Science Foundation, may turn up valuable solutions.

In non-high-technology industries the possession of technical education by the entrepreneur—technicians can be hired—usually tends to not have much importance, but work experience still may. Cooperative industry-education arrangements there too might be worth exploring.

E. LACK OF SEED CAPITAL

The first $25,000 to $100,000 beyond the entrepreneur's personal resources is an especially severe problem for many start-ups. It is hard for venture capitalists to justify spending time on small deals, when big ones cost no more time than small ones to work out (Wetzel 1981, 217). Moreover, the earlier the point at which they enter a deal, the longer the time they may have to wait to be able to cash out. A 1980 SBA report notes this and goes on to observe that "venture capital investors tend to shun start-up financing because of the great risk involved" (U.S. SBA, May 28, 1980, 1).

The existence of a "capital gap" in the pre-start-up and start-up stages has been anecdotally observed (U.S. SBA, *Economic Research on Small Business* 1981, 77, 92), but to date not studied (Morse 1981, 219), although one investigation of it is now under way.

Morse also noted that actions taken to stimulate more venture capital to date, such as lower capital gains taxes and regulatory reforms "do not address the *unique* problems of start-up firms." Some possible solutions worth considering include actions to facilitate formation of networks between individual investors who may be interested in smaller early-stage deals, government incentives for the formation of SBICs (Small Business Investment Companies) that would pool money to specialize in start-up financing, *plus* other measures aimed at increasing the total amount of venture capital available in general, thereby increasing competitive pressures among venture capitalists to consider more deals, including start-ups. (Futher suggestions will be offered later in the concluding section.)

F. LACK OF BUSINESS KNOW-HOW

Lack of business knowledge is probably a less severe handicap than the other barriers above, but can still be vitally important, depending upon the circumstance. Business know-how seems to be learnable during start-up for many ventures, particularly if the competitive edge of the basic business concept is great, thereby allowing room for error in business decision. In the words of one successful entrepreneur, "A high margin product can cover up a *lot* of management mistakes" (at least until competition arrives). Circumstances more tolerant of poor management, for instance, could include a new retail store with a dramatically advantageous location, a new product with a patent-protected technological advance giving it a great performance/cost differential over competition, or a service with sudden increase in demand versus supply (e.g., increase in demand for petroleum exploration services during the short supply of an energy crunch).

In highly competitive businesses, absent a substantially new idea, there tends to be less room for business error, and business know-

how consequently becomes more vital to start-up success. Programs that provide business education and advisory services (e.g., such as those provided through volunteers and university cooperative programs by the SBA) have demonstrated helpfulness in this regard. Further experimentation with different approaches supported by research grants might point the way toward still better ways of enhancing management techniques.

G. COMPLACENCY AND NONMOTIVATION

Complacency and lack of motivation to leave other employment—to anticipate possible unemployment by preparing for entrepreneurship as a "lifeboat," or to attempt entrepreneurship (and what it entails) as an alternative when unemployed—probably deters untold thousands of people from attempting new ventures on either a full- or part-time basis.

The kinds of ventures that might generate jobs faster for the unemployed, relatively modest and low-profit service types of enterprises, are discouraged by such welfare state policies as high pay for unemployment and relief benefits coupled with the leisure that goes with them. Often these benefits pay better than entrepreneurial initiative does in lines where competitive entry barriers are low, such as in house-painting, minor auto maintenance, janitorial and domestic services, making leisure of the dole more attractive than the struggle involved in start-up. Reviewing small businesses in the Midwest, Cooper and Dunkelberg (1979, 7) noted that "Many small businessmen report that the minimum wage sets the price of untrained labor too high in comparison to its value. Thus, firms are discouraged from hiring new labor force entrants who have few skills. These businessmen also observe that the welfare payments system has become a major competitor for unskilled labor, often paying more to individuals not to work than the firm can afford to pay in providing jobs."

Retirement benefits and social security penalties on earned income probably tend to lower the motivation for many thousands who might otherwise attempt ventures which could provide employment for them and/or others. Moreover, many of those retired might be unusually qualified to attempt ventures, both because of their extensive work experience and because they have savings that could be used for seed capital.

To increase the relative attractiveness of entrepreneurship versus nonwork by reducing the level of leisure and pay for nonwork through such measures as "workfare" and lowered benefits, may be undesirable or politically impossible, or both. The other option would be to increase the relative attractiveness of entrepreneurship by measures to make it higher in payoff, or lower in risk, or both. There seem to be attraction precedents in other fields. The way the court system has operated, for instance, has made the legal profession so appealing that numerous new law schools have started up in recent years, and the number of lawyers has increased tremendously. Government spending on medicine has produced a similar boom, not only in medical school applications and numbers of doctors, whose level of prosperity is virtually always high and whose risk of failure is nearly nil (starting physicians can even get seed capital from banks on terms that virtually no entrepreneurs can), but it has

also spawned numerous start-ups in biomedicine, bioengineering, and hospital equipment manufacturing.

Complacency as a barrier to entrepreneurship can exist at all economic levels, and for unemployed as well as employed people. Cooper (1973, 63) observed that "if the established firms are well-managed and avoid periodic crises, there may be little incentive for potential founders to leave comfortable positions." Brown noted further (1982, 457), based upon his experiences in generating start-ups at the University of Utah, that "With sufficient incentives capable people find ways around obstacles and succeed....The innovation center should not become too comfortable for the entrepreneur. The objective is to help him be successful and move on to larger quarters outside the center rather than to provide a comfortable retirement home." The manager of a government research laboratory doing research on robotics, when asked about companies spun off from the laboratory, commented that to his knowledge there never had been any. "There really isn't much drive in the institution, and when we hire new people they quickly pick that up and become complacent."

The two principal ways to increase the entrepreneurial reward/risk ratio and thereby motivate more people to undertake start-ups are probably involved with tax incentives for start-ups and with government procurement. The test of how they work will show up in a number of ways, including the benefits listed earlier. Another will be in terms of the fraction of the population who become wealthy through entrepreneurship. A review of the 100 richest people (*Forbes*, Sept. 13, 1982) reveals that 50% of them arrived at that status via inheritance. Another 35% became rich through real estate, oil, and other speculative investments. Only 15% obtained their wealth as a result of entrepreneurship. How economic policies influence this balance, and what they might cause it to be in the future is a question worth further study, because the answer may have motivation implications for entrepreneurship, despite the fact that entrepreneurs say they didn't do it for the money (Thorne and Ball 1981, 73).

H. JOB "LOCK-INS" Sometimes referred to as "golden handcuffs," job "lock-ins" act to reduce the relative incentives for employees to leave their jobs and create new enterprises. Some lock-ins, such as success and high salaries on the job, are inevitable, and not to be disparaged. Others, such as rights to options, pensions, and profit-sharing accruals, can become enslaving unless the employee can take along whatever he or she has accrued when leaving an employer. Policies that enhance the transferrability of accrued benefits through early vesting, tend to free this restraint on employees and thereby are supportive of spin-off start-ups.

I. SOCIAL STIGMA There are degrees of social stigma associated with certain types of work, such as the low-entry barrier lines of work (mentioned above), and also to some extent with entrepreneurship in general, which may be deterring valuable start-ups. In the low-entry barrier category, why it should be considered demeaning to provide some personal services (e.g., housecleaning), and not others (e.g., cleaning teeth)—or to provide them to some people, such as the president of the country, the inheritor of a fortune, or a hotel guest, and not to others,

such as middle-class families—is something sociologists may be able to explain, but it is contrary to start-up incentive in such fields as all sorts of personal services. Even driving a dump truck, according to Liles (1974, 7), could be considered unacceptably low class by someone with an upper-class education: "I could not afford to explain that I was the owner of a dump truck. No, I was 'with' the ABC Corporation." Shapero blames both parents and schools for inculcating the belief that when it comes to employers "bigger is better" (1981, 13).

What national policy could do to enhance the image of entrepreneurs, aside from some suggestions (above) which would tend to foster more successful entrepreneurship, would probably be to support more educational programs in both teaching and research concerning it. A leading reason why schools look up to big business is that they get money from big business for scholarships, research grants, buildings and equipment, development of teaching materials; and consulting jobs for faculty members. Entrepreneurs cannot match this largess because they are individually short on money and collectively scattered. Their champion must be the aggregate of society (represented by the government) which stands to benefit from their ventures.

Much can also be done by private foundations as well, but so far little has been. A few individuals who as entrepreneurs made large amounts of money have stepped forward and given endowed professorships at a number of schools. (Vesper 1980(A)). These few are helping to advance the respectability of the subject among academics, who in turn are likely to convey some of that attitude of respect to their students.

As entrepreneurship has become a progressively more popular topic in recent years, the press also has tended to enhance the image of the entrepreneur.

J. TIME PRESSURES AND DISTRACTIONS

Other work, leisure, and home life, create time pressures and distractions that tend to deny opportunity to work on starting new ventures for many. Typically, the amount of time that must be broken free of these other demands and applied instead to the myriad problems of searching, analysis, synthesis, and recruiting to get a new enterprise started, is enormous. This can quickly be envisaged simply by listing each of the functional areas of a business—design, production, marketing, personnel, finance, legal aspects, accounting, and external relations, and then estimating the time required for the fulfillment of each task, allowing for backtracking, error, conflict, lack of information, and governmental red tape (among other things).

An individual decides whether to spend time venturing or on other discretionary activities, according to the pushes and pulls on him/her. But employers, if they choose to, can help. Some research laboratories of big companies, for instance, grant a certain fraction of time for individuals to utilize in the pursuit of scientific and product development activities of their own choice. Beyond that, companies have often given rights on those products and processes they did not want to pursue—perhaps because of conflict with corporate strategy,

or limitation of resources, or lack of faith in the ideas—to those employees that developed them, thereby enabling the employees to use the products or processes as a base for starting companies of their own. Other measures of encouragement given by employers to employees forming start-up have included the extending of trade credit, the providing of venture capital, the offering of helpful advice, allowing use of company equipment and facilities, and/or serving as a first customer.

Whether to allow or encourage such spin-offs is a matter of company policy choice. Government could influence that choice through its own policies in such areas as taxation, procurement, and permission to use government-owned equipment and facilities.

An innovative idea to provide some individuals with free time for start-up purposes (suggested by John R. Thorne of Carnegie-Mellon University), would be to grant permission to people who quit jobs in order to pursue start-ups to collect unemployment insurance for a limited number of months during the period of attempt. Precedent for this might be taken from the fact that people can now collect such insurance when they go on strike.

K. LEGAL AND REGULATORY CONSTRAINTS

Legal and regulatory constraints have been roundly lambasted by operators of ongoing businesses, both large and small (Caldwell et al. 1979; U.S. SBA Advocacy hearings on Productivity, Innovation and Small Business Entrepreneurship 1980). But their deterrent effect upon start-ups is probably considerably less greater in some industries than in others (Karns and Premus, 1982). In some, such as construction, aquaculture, pharmaceuticals, chemicals, and others which generate pollutants, regulations may constitute substantial barriers. But in others, such as electronics, computers, and oil drilling equipment, it is hard to find many examples where constraints have figured significantly during start-up. Regulations can actually create a need for some types of new businesses (Gerstenfeld 1977) and thereby foster start-ups. Examples would be in antipollution equipment, or consulting services that help people cope with regulations.

One option for federal policy would be to review industries in a search for those wherein laws and regulations most inhibit entry of new firms. There already have been hearings concerning the effect of regulations on small business (U.S. SBA Mar. 11, 1980; April 23, 1980; May 28, 1980). There have been studies which have shown that the costs imposed by regulations are inordinately high on small, as opposed to larger, business (Sommers and Cole 1982; Berney 1982). But to date, the government-backed studies and hearing on regulations have not singled out entrepreneurship, as distinct from small business, for attention.

L. MONOPOLY AND PROTECTIONISM

Monopoly and protectionism can cut either way on stimulation of entrepreneurship. For example, some countries offer to erect import restrictions for the protection of entrepreneurs who start new businesses in certain manufacturing categories. On the other hand, import restrictions reduce the opportunities for starting new companies in the import business.

Domestic monopoly is probably more one-way, serving only to suppress start-ups. An illustration would be the postal monopoly which, although it seems to have had a consistently poor record of performance, has nevertheless been able to shut down (through court action) occasional private mail delivery services started by independent entrepreneurs who offer faster and cheaper delivery. In those selective areas where competition has been allowed, private mail delivery has markedly outperformed the postal service, one example being the success of Federal Express (and other new private delivery services). The way in which more new companies might be started to do a better job, if the postal service monopoly could be broken, has been illustrated by start-ups that occurred in the airline and trucking industries when they were deregulated (and which could occur in the phone industry as it is opened wider to competition).

When the government props up big business, it thereby suppresses entrepreneurship. If Lockheed and Penn Central had been permitted to fold, instead of being bailed out with taxpayer money, it would not only have allowed competitors, such as Boeing and McDonnell-Douglas, to expand, but would also have widened the opportunities for the formation of many new firms, some of which would have taken over pieces of the failed firms, and others of which would have started new operations. Labor monopolies, exemplified by effects of the Davis-Bacon Act in excluding firms that employ independent workers from federal construction jobs, undoubtedly also preclude new entrepreneurial entrants from the marketplace.

Removal of governmental protection from monopolies, and of the props from existing enterprises, would consequently tend to lower barriers to entrepreneurship. This process has started, but could be carried further.

M. PATENT INHIBITIONS

Inhibitions relating to patents to new ventures are present in several forms. The cost and vulnerability of patents, which discourage their use as a concept-protection device behind which new ventures can be formed, is one such inhibition. It is expensive to obtain a patent, and although large companies can easily afford it, many independent inventors and entrepreneurs cannot. Even more serious, however, is the vastly higher cost of litigating to protect a patented idea when infringement occurs. Many infringements cost more than a million dollars to prosecute or defend, and costs in the range of $300,000 to $500,000 are common. Even after such expenditure there remains a high degree of probability that the patent will be ruled invalid. Consequently, the principal value of patents to entrepreneurs presently is as a selling tool to venture capitalists, who see them as indicators that the proposed venture has at least some proximity to the frontier of technology, and is probably not violating someone *else's* patent. This value, essentially a negative one, falls far short of the protection that the patent system was intended to provide, and which would have been much more helpful to entrepreneurs.

Fortunately, the problem has been getting more attention and specific action, both legislative and administrative, in the past few years (Iandiorio 1981, 295-304; Iandiorio 1982, 252-61), and new

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attempts to improve the system are continually being worked on. Some of the attention has been focused upon independent inventors, but most of the data in studies appears to have come either from existing firms, both large (Von Hippel, June 1979; Feb. 1981), and small (Obermayer, Aug. 1981). To some extent implications from these findings have been suggested for entrepreneurs (Obermayer 1982). But connections between patents, entrepreneurs, and government policies have not received specific study attention.

Looking back over the list of barriers and considering how they might apply to different types of industries, it is apparent that not all of the barriers are equally inhibitive to all types of ventures. For instance, minimum wage and welfare leisure probably do more to inhibit start-ups in services than in other types of businesses. Patent limitations, however, likely have little effect on services, but may have considerable effect on both high-technology and non-high-technology manufacturing start-ups. It is difficult to generalize as to exactly how much each barrier applies to each industry, because it can also vary within an industry. For instance, red tape barriers are high for start-ups in ethical drug manufacturing, but not in most other types of manufacturing, although there they may become higher later on, after start-up.

FIGURE 8 BARRIERS AND TYPES OF START-UPS THEY TEND TO INHIBIT MOSTLY

PRINCIPAL BARRIERS / TYPE OF START-UP	A. Lack of a Viable Concept	B. Lack of Market Knowledge	C. Lack of Technical Skills	D. Lack of Seed Capital	E. Lack of Business Knowhow	F. Complacency; Lack of Motivation	G. Social Stigma	H. Job "Locking;" "Golden Handcuffs"	I. Time Pressures, Distractions	J. Legal Constraints, Regulations	K. Monopoly, Protectionism	L. Inhibitions Relating to Patents	
WHOLESALE TRADE		✓			✓	✓			✓				
RETAIL TRADE	✓				✓	✓	✓		✓				
SERVICE	✓				✓	✓	✓		✓	✓	✓		
HIGH TECHNOLOGY	✓	✓	✓	✓	✓	✓		✓	✓			✓	
PROPRIETARY, (OTHER) MFG.	✓	✓	✓	✓	✓	✓			✓			✓	
NONPROPRIETARY (OTHER) MFG.			✓			✓		✓	✓				
CONSTRUCTION						✓			✓	✓	✓		

When formulating policies to foster start-ups, it can be important to consider specific industrial impacts. For that reason studies by industry to provide better information for forecasting impacts would seem worth obtaining. A first rough estimate of which barriers tend to have most impact on what industries is suggested by the checks in figure 8. The reader may wish to form his/her own estimates for some intersections in the chart based upon existing familiarity with specific types of businesses. Another format for considering the strategic impact of policy alternatives on the generation of particular types of benefits will be suggested shortly.

VIII. BENEFITS AS OPPOSED TO COSTS

Increased entrepreneurship should justify itself economically by employing resources that would otherwise not be used as well, or at all; by creating innovations which would not otherwise occur as soon or at all; or by adding to economic efficiency through inspiring people, and making it possible for them to work harder, "smarter," or with less red tape and other economic friction. The higher the level of venture performance relative to cost, the greater the realization of this preferred economic outcome. National policy choices aimed at entrepreneurship should be made with this principle in mind.

An attempt to lay out the overall factors involved appears in table 8. The first column lists costs, broken down as *manpower/other* (principally *capital*). The lowest manpower cost would likely be achieved if new ventures could put the unemployed to work without causing unemployment elsewhere. But a gain could also be achieved if people were put to work in the new ventures in such a way as to utilize more fully their energies and capabilities, and to inspire them to higher output. That might mean they would leave other jobs, which hopefully would open employment opportunities there for others, and so on. The contrary situation might be one whereby entrepreneurship lured people away from productive jobs and applied their efforts in a wasteful or futile way.

TABLE 8 VENTURE BENEFIT/COST CONSIDERATIONS

1	2	3	4
COSTS OR INPUTS	TYPE OF VENTURE	VENTURE OUTCOME	BENEFITS
Manpower	*Trade*	Super	*Job Creation*
Unemployed	Wholesale	Moderate	Short Run
Under employed	Retail	Transient	Long Run
Under inspired	Service	Marginal	Innovation
High Cost	High-Technology Manufacturing	Living Dead	Spur Efficiency
Other	Non-high Technology Manufacturing	Flop	Exports
Capital	Non-Proprietary Manufacturing		Decentralization
Other Resources	Construction		Pursuit of Happiness

Failure of the venture might indicate such waste, or might not, depending upon what was learned from it and how that learning was applied later. The costs of failure have been given almost no study in depth. Even the statistics on failures, which are often said to be high among small firms, have proved to be unreliable and overstated. The rate clearly varies widely among different lines of business (Vesper 1980 (B), 29; Tyebjee and Bruno 1982, 175), and recent investigation suggests that the rate of "discontinuance" (which must be greater than the rate of failure, since it includes not only failures but termination for other causes as well), appears to be substantially lower in some lines of business (such as retailing and services), than had previously been believed (Shapero 1982).

Costs of capital and other resources would have to be netted out in a benefit/cost analysis when making a comparison with expected payoffs from using that capital for other purposes. For example, the cost in terms of administrative and indirect expenses, as well as loan losses, of generating jobs through Small Business Investment Companies, was recently found to be $312 per job created, according to a recent study by Deloitte Haskins & Sells (Oct. 1981). How that compares with costs per job of other federal job-generating programs should be examined. The same report notes the "SBIC program costs of $4 million for 1979 generated tax revenues received by the federal government of over $440 million, a direct return to the federal government of $110 for each dollar spent.... No attempt was made to quantify the 'multiplier effect' of the portfolio companies on the rest of the economy."

Another meaningful comparison might be the amount the federal government loans for venture financing compared with what it loans to others. For example: total SBIC money invested as of 1981 was estimated to be $1.4 billion (Pratt 1982, 25). Perhaps 75%, of this amount, or about $1 billion, may be federal loans or loan guarantees, which is to say money on which the federal government is taking some risk (but should in the main get back). In contrast, the amount loaned by the federal government to Mexico in the last four months of 1982 was $3.6 billion, with another $2 billion under consideration.[36] That money too should, hopefully, be repaid eventually. But for whose benefit is it? And what benefits will it generate for the United States? And for what segments of the U.S. economy? Entrepreneurs? Not likely. Small business? Not likely. Big banks and firms? Probably. The same could be asked about foreign economic aid money, which is dispensed in the billions each year. But studies comparing their benefits and costs with the benefits and costs of applying the same funds to U.S. entrepreneurship have not been made.

The other three columns following "costs or inputs" in table 8 list considerations that may have an important bearing on the netting out. The different kinds of benefits that may be realized (col. 4) depend upon both the type of venture (col. 2), disucssed earlier under "Benefits from Start-Up Companies" listed in table 1, and upon how successful the venture turns out to be (col. 3). What cannot be shown,

[36] *Business Week*, Dec. 6, 1982, 36.

because it will always be largely if not entirely unknown, is some indication as to the benefits that would have been realized if the manpower and other resources had been utilized elsewhere.

To illustrate how results might vary with line of business, two "for-instances" have been constructed (see figs. 9 and 10). The first supposes a high-technology start-up, and illustrates why firms of this type are popular among people who seek industrial development. Beginning with costs (col. 1 of fig. 9), the new enterprise may employ some people who already have jobs, but are less inspired in them than they will be in the new venture. They might be engineers, working for someone else where they lack a sense of independence, and where they cannot follow through on creative ideas they may have, perhaps because their employer sees the ideas as too risky or as outside the goals of his company. In the new business these engineers will have a chance to gamble on their ideas themselves, the stakes being that they may lose their investments as well as their jobs if the ideas don't pan out, but on the other hand may win in a big way if they succeed.

FIGURE 9 POSSIBLE BENEFITS/COSTS OF A HIGH-TECHNOLOGY VENTURE

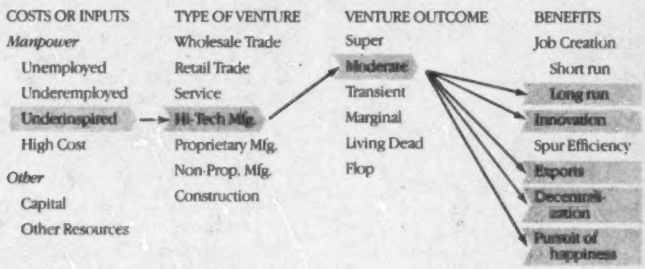
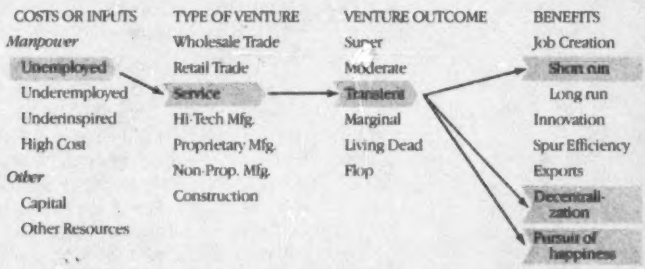


FIGURE 10 POSSIBLE BENEFITS/COSTS OF A SERVICE VENTURE



Capital will come from their personal savings (perhaps instead of being used to buy a new Porsche), and from those of one or more outside investors (conceivably persons who might otherwise invest in a vacation cabin or commodity futures). Or the resources may come from other alternative business investment applications.

If the business were moderately successful, not necessarily another Federal Express, but perhaps a solid, small, and growing instrument company, it would not generate many jobs fast, but those it did create would pay fairly well and become permanent, so that after a longer period of growth a substantial job contribution would be made. Its survival would imply successful innovation capable of enduring competition from others in its technological industry. This performance would help keep the nation's technological edge sharp, and could result in exports to other countries.

Finally, like other start-ups, it would add to decentralization of the economy and allow its founders to pursue goals of personal independence while offering for those in the job market who prefer it, the opportunity to work for a smaller employer, perhaps accepting somewhat lower wages and fringes in exchange for stock options, less impersonality, and greater opportunity to see the impact of their individual contributions on the performance of the overall enterprise.

In contrast, the second example in table 8 supposes a service business start-up of a more transient nature involving consequently different costs and benefits. It might perhaps be a home repair service firm inspired by some sort of tax credit program for personal services employment. The work being mainly low-skilled would make possible the hiring of a broad range of unemployed individuals. Little or no capital would be required for the business, so many of its type might spring up. Hence, this example would subtract little from the rest of the economy in terms of capital, and nothing in terms of employed workers. Nor would its creation throw anyone else out of a job.

The benefits of this venture would not only be different, but more limited than those of the high-technology example. If the venture was relatively short-lived, then the jobs it created would be of a more short-run nature. It would still contribute to decentralization of the economy, though probably not as potently as would the high-technology start-up. The profits and taxes generated by this small service firm (probably permanently small) would likely be substantially less than those of the high-technology start-up as well, although it too could serve as a path for *pursuit* of happiness.

Thus these examples (only two out of an unlimited number of possibilities) would have very different chemistries involving different costs and benefits. The kinds of government policies needed to foster each would also be different. Which should be preferred would be a matter of judgment, taking into consideration all three of these elements: costs, benefits, and policies needed for encouragement, as well as the political implications of those policies. For instance, to lower the minimum wage or give tax breaks for personal services in order to encourage more service start-ups for the sake of generating employment presumably would be politically difficult, if not impossible, even though it would undoubtedly result in more useful work being done, marginally employable people being trained, and welfare being reduced.

It should also be noted that for many types of start-ups, no policy moves may be needed at all. Trade businesses, wholesalers, and retailers alike seem to spring up automatically in response to demand generated by other sectors of the economy. If there is an oil embargo, filling stations close down. If there is a baby boom, toy stores pop up. When a city expands, plenty of service firms always come into being to fill the demand. If one of those service firms is badly managed or for some other reason shuts down, though the demand is still there, then another one is started quickly to replace it. Such entrepreneurship tends to happen automatically, provided no laws are passed against it, or perhaps even if they are. This seems to suggest that national policy moves for fostering entrepreneurship should be aimed at those particular types that have desired benefit and cost relationships, and which seem likely to be affected enough to justify the policy moves.

IX. NATIONAL POLICY DECISIONS

A. GOVERNMENT INTRUSION

Why wouldn't the best thing for entrepreneurship be for the government simply to stay away from it entirely? Assuredly there are those who have said it would be, and probably they are right for some start-ups – those that are occurring anyway. But that approach brings up at least two problems. One: the government does in fact intrude into business and entrepreneurship, and is not about to stay clear of it. Perhaps if it did that would be best, but factually it will not happen. The second consideration: the start-ups that are now occurring are not the ones to be concerned about with respect to national policies. Rather, it is the ones that are *not* occurring but that might be induced to occur by reason of new policies, that should justify those policies.

Some of the ways of government intrudes into the business system and influences entrepreneurship have already been mentioned: maintenance of the post office monoply, utility monopolies, the Davis-Bacon Act, changes in the patent system, maintenance of the minimum wage, regulation of some industries and bailouts of big companies in others. Beyond those government intrusions influencing entrepreneurship many others can be readily identified also. Included are such areas as: price supports in agriculture, loan guarantees for small businesses, set-aside policies in government procurement, Federal Reserve influences on interest rates, government performance of scientific research, policies relating to use of government-held patents, import tariffs, and government payments to nonworking individuals. To ask that government stay out of entrepreneurship is to call for a state of affairs that is very far from what now exists or is likely to.

Meanwhile, it is helpful that constructive suggestions for policy initiatives that would encourage more entrepreneurship have been forthcoming from numerous sources (Abrahamson 1982; American Electronics Association 1978; Commerce Technical Advisory Board 1978; Citizens' League 1977; Small Business United 1982; Schell 1982; Thorne 1982; Zupnick 1981).

Policies that might be adopted for the specific purpose of influencing entrepreneurship logically should be weighed in the balance, along with broader national industrial policies of which they would form only a part. The editors of *Business Week* (1982, 142), after reviewing the performance of the United States and that of other industrialized countries of the world, observed that "what the pace-setting nations have in common, despite profound differences among them, is broad support throughout their societies for basic national economic goals and for measures of industrial policy to achieve them." Seeking policies to foster entrepreneurship as an important part of the national economic picture should include the aim of adding to the coherence of the whole.

One main consideration in weighing policies must be the relationship between benefits and costs, as well as other relationships discussed earlier. The kind of benefits desired has a bearing on determining the types of industries in which start-ups should be most preferred. That, in turn, has implications for what sorts of policies are likely to be most effective. More technical training may be helpful to high-technology start-ups, but not in a way that has a quick impact in terms of substantial job creation. On the other hand, lowering the minimum wage may be much more helpful to service start-ups and short-run employment, but not do anything for exports and the international competitiveness of the country.

Another main consideration must be political feasibility. It is probably not possible to cut the minimum wage (although there has been talk along those lines). On the other hand, it has been possible to reduce by a substantial amount the tax rate on capital gains, which has resulted in a considerable expansion in the supply of available venture capital.

B. AN EVOLUTIONARY APPROACH

National policymaking can never be a scientific mechanical procedure. There are simply too many options, implications, unknowns, and changes in everything over a period of time. The present state of affairs in regard to entrepreneurship is an experiment in effect, and any departure from it will constitute another experiment. Hence, a most rational starting action would seem to be the setting up of an effective tracking system to see where the experiments, whether deliberate, or (as in the present state of affairs) inadvertent, are leading. The results of such tracking and assessment can then help serve as a basis for better judgments about how to change the experiment as time goes on.

It is important to go ahead with experimenting, because there are too many complexities to be able to predict results without experimentation. At the same time it seems preferable to do so with some caution where possible. Some kinds of changes which would benefit entrepreneurs, such as tax modifications, can be made in smaller rather than larger amounts at a time; other changes, such as educational programs, can be performed in a local or regional setting first, to see how they work before introducing them on a broader scale.

Such an experimental approach will require persistence, however. It will not suffice to plan on just one change or one initial set of new policies. Rather, the plan should from the start be to try one step, assess results, then take another step, either larger or in a different direction,

based on that assessment. A number of such experiments could be run in parallel to speed up the process.

A long-term view should be taken for making the most of national policies for entrepreneurship. Some kinds of actions can produce fast results (e.g., dropping tax rates to stimulate venture capital expansion). Others, even though they may produce results quickly, may be difficult politically, and therefore take a long time to introduce into the system (e.g., modifying or reducing postal monopolies). Still others simply cannot produce fast results at all (e.g., education and research to produce more people capable of high-technology start-ups).

Tracking should begin now, and experimenting should begin soon, but with the expectation that end results desired may take years and even decades (as did Route 128 and Silicon Valley) to blossom. Part of the planning should include identification of intermediate goals, which are bound to be different than the desired end results, goals whose achievement hopefully will provide signals that can be accepted economically and politically as reason to stay at the task for the long pull.

Policy moves can then be charted on a phased basis over time, with a few being selected from the many alternatives to get started, and others being chosen for later stages as experience develops over time.

X. POLICY OPTIONS AND RECOMMENDATIONS

The following are areas within which national governmental policies might be shaped for creating a better climate for entrepreneurship.

A. VENTURE CAPITAL

Aside from tax policies, to be discussed shortly, the principal ways the federal government affects the availability of venture capital is through (1) its SBIC (Small Business Investment Company) program, (2) the SBA direct loan and loan guarantee programs, and (3) the formulation and implementation of securities laws and regulations. All of these, at present, serve companies that are, in the main, already "up and running," and thereby fall short of the area for financing of start-ups.

Especially neglected (as noted earlier), seem to be the needs of start-ups requiring capital in relatively small amounts, in the range of up to $100,000. Such amounts are usually too small to interest major venture capitalists or other institutional equity investors, but are typically needed beyond the personal savings which entrepreneurs can muster from themselves, their families, and their friends. As a result, some potentially good ventures are probably either warded off before launching, or terminated during launch.

Therefore, it is *RECOMMENDED* that measures be tried which offer promise of providing more venture capital in this smaller size range. One possibility for this, as has been recognized by the SBA, (Cloherty 1982), would be to increase further the existing incentives of SBICs (Small Business Investment Companies) to invest in start-ups in particular, and incentives for the formation of new "Venture Specialized SBICs." The main incentive for SBICs at present is the extension of capital leverage through capital provided from the federal government

at low interest rates. Either the rates could be lowered still further for this category of investment, or the amount of leverage allowed could be increased, or the restrictions presently imposed on SBICs could be selectively relaxed so that this way of investing might have greater appeal to investors.

A second possibility would be for the federal government to provide further financial support for the establishment of a computer-based "networking" facility to serve individual investors interested in small ventures. Some research funding has already been provided for exploration in this area (Wetzel 1982), and if it continues to show promise, further implementation support would seem a likely next step.

A third possibility would entail more reshaping of securities laws to expand start-up capital availability further. The passage of Regulation D has been a constructive step in this direction, and other steps are being contemplated by the Securities and Exchange Commission. Following through with implementation of these changes will also be part of the job. It will be important for the states to reconsider security restrictions, and look for further ways to simplify procedures for making sure that the spirit of these new regulations is not being thwarted at state level. Precedent for implementation of federal intentions at state level has already been well established in other fields such as pollution control, labor practices, and civil rights.

The federal government now makes capital directly available to companies through SBICs as well as direct loans and loan guarantees provided by the Small Business Administration. Just what fraction of this money is extended to start-ups in particular is not known (although it should be), but it is clear that only a small fraction goes to start-ups and most of it goes to firms already under way.

Part of the problem is that the government has thus far operated only as a lender and not as an investor, whereas additional equity rather than debt is what new start-ups need most. Most new ventures lose money when they are starting. Their expenses begin immediately, whereas it takes time for them to build up an offsetting income stream from sales to reach breakeven. Having to pay interest on debt saddles them with an additional expense, thereby extending their start-up losses and postponing their breakeven. This situation makes it harder for a new business to do many things, such as obtain credit, persuade competent employees to work for it, borrow from the bank, and convince customers that it is in business to stay. On top of this, having to repay principal on the debt imposes an additional cash drain early in the life of the business, further jeopardizing its solvency.

Hence, there could be advantage in having the government not only continue serving as a lender, but in addition, participating as an equity source at the same time. There have been at least four precedents for this among state governments (Daniels and Barbe 1981, 31), whose experiences can be studied as a basis for further experimentation. But it has not as yet been explored by the federal government, although that too has been suggested (U.S. SBA, May 28, 1980, 2) and seems worthy of testing.

It is, therefore, *RECOMMENDED* that the federal government seek out and test new and untried means of financial assistance, including alternative mechanisms of equity participation, particularly in start-up and early stage ventures. It should not enter in the role of a venture capital firm, but rather as a participant along with existing venture capital firms, so that the investment decisions are made in the private sector by private sector people who are risking their own money, along with government money, on the decisions. The government would thus go along as a coinvestor on the same risk/reward basis as the private investors. It might appropriately also share in the overhead costs of working out the deals, and its return would come not in the form of interest and repayment, but rather in its pro rata share of profits when deals are cashed out. It would, of course, also benefit from the income taxes received, reduction of unemployment payouts, and any improvement in the balance of trade as well.

B. TAX RULES

Tax rules have been powerful tools for stimulating investment, whether in oil drilling, housing development, or in the case of established companies, fixed assets. They have also had some effect, through provisions for R&D partnerships, in encouraging new company formations. Reduction of the capital gains tax has been credited with vastly expanding the supply of venture capital from an estimated $3 billion before the reduction in 1978 to $4.5 billion in 1980.[37] The Miscellaneous Revenue Act allowing deduction of start-up expenses,[38] and earlier the creation of the Subchapter S provision allowing corporations to escape double taxation on the same basis as do partnerships and proprietorships, have very likely also contributed to more start-ups, although to what extent is not known. Nor will it be known how much the Subchapter S Revision Act passed in 1982 will help entrepreneurship, unless some form of monitoring system is set up to keep track. But the Revision Act should help further.[39]

But there are many additional changes that might be introduced by way of providing continuing encouragement on behalf of entrepreneurship. One is a *RECOMMENDATION* that the capital gains tax be dropped to zero on money invested in a start-up or very early stage company, and left in the business for a minimum of five years. This should increase the supply of money for start-ups while giving them more time to become established before they have to go "back to the well" to pay it back. At the same time, the adoption of this recommendation would not introduce an immediate reduction of tax revenues to the government.

Some other tax incentives to foster start-ups should be considered. The concept that allows homeowners to defer capital gains taxes on real estate if they reinvest in new housing, could be extended to apply to reinvestment of capital from ventures into additional ventures. Depreciation rules that make real estate such an attractive form of investment to people in high income brackets, because of accelerated write-offs, could be extended as an incentive for them to invest in start-ups as well.

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[37] *Inc.*, June 1981, 132.
[38] *Business Week*, Mar. 2, 1981, 121.
[39] *Business Week*, Nov. 1, 1982, 82.

The strongest form of write-offs would be immediate, analogous to that granted under some forms of petroleum drilling and R&D partnerships, whereby the write-off of future investment commitments can be taken immediately. For example, a loss reserve could be written off immediately, but recaptured later if and when profits are made. A more moderate form would be some sort of scheduled write-off rate over a period of time. An experimental approach might include trying various combinations to test their effects in some planned way.

Means should also be explored for allowing the new enterprise marketplace to do what established companies can do internally in the way of applying the profits from one part of a corporation to start up new activities in another part without being subjected to corporate income taxes enroute. Consideration should be given to the possibility of allowing corporations as well as individuals to shift profits earned from one venture to cover losses being incurred in another venture in which an investment had been made. To some extent this is already possible, as in the case of divisional start-ups within a corporation, or the case of subchapter S corporations held by individuals; but in other ways, as when the division is not wholly owned or the corporation is not Sub-S, there are restrictions. Relaxation of those restrictions should be further explored.

To encourage the spin-off of new technology and start-up companies from larger established companies, some sort of greater-than-one multiple tax deduction on developmental expenses might be allowed on technology successfully spun off to start-ups. Since established companies seem to be the most effective training ground for successful entrepreneurs, these incentives might be especially important and worthwhile. Special care and painstaking effort, however, would have to be applied to designing them so that they would have the best chance of working well.

It is therefore *RECOMMENDED* that these additional possible tax incentives to stimulate more start-ups be analyzed further and considered for possible experimentation somewhat further downstream.

C. GOVERNMENT PROCUREMENT

Perhaps the most important way in which national policy influences innovation is via government procurement, according to authors Rothwell and Zegveld (1981, 80). One industry in particular that clearly owes much of its development to government purchasing, especially by the Defense Department, is electronics (Utterback and Murray, 1977). Studies of the rise of Route 128's industry have found that many of the start-ups responsible for it were either partly or entirely dependent on government contracts during their creation and early development periods. (Roberts and Wainer, December 1968). After that they worked toward diversification into commercial markets. A series of informative case studies have been developed (Obermayer, July 1980) which reveal how this process works. Among other things, government purchasing can be a remedy for the "capital gap" problem of early seed financing (U.S. SBA, March 11, 1980, 22).

But there is also much that is not known about how government purchasing impacts upon start-up, including just how much government

procurement goes to start-up ventures, as opposed to the volume that goes to small businesses already in operation. The Small Business Innovation Development Act promises to help small business win a larger share of awards, but unless start-ups are singled out for notice in implementation of the Act, they may get left out, in the main, in favor of established firms, since the latter have more resources with which to seek out and pursue contracts. Moreover, working with established firms does not require so much work and risk-taking on the part of government procurement personnel. (Perhaps letting some parallel contracts in which start-ups, small firms, and large firms compete in the development and production of the same item, together with an assessment of all accompanying costs and benefits, including but not limited to contract performance, would be a way of evaluating policies in this area.)

The problems of dealing with government contracts have often been too difficult even for established small firms, and for start-ups the added bias on the part of contracting officers against dealing with start-ups can make it even harder. Both procurement time and payment time have been very long (U.S. SBA, Advocacy hearing, April 23, 1980, 3), while the contracts themselves have often been too short for the company to prepare for commercial entry (U.S. SBA, Advocacy hearing, May 28, 1980, 3). Often it has seemed that government personnel have difficulty in relating to entrepreneurs themselves (U.S. SBA Advocacy hearing, May 28, 1980, 3). At times enough animosity has been generated in this process to even become a cause celébre (Hafer 1980).

Deliberate government policies concerning procurement from start-ups, including award of contracts in anticipation of start-ups, could help. A number of policy alternatives have been suggested (Obermayer 1981), and still others would undoubtedly present themselves if a deliberate initiative to explore this area of policy options were undertaken.

It is *RECOMMENDED*, therefore, that the federal government make such exploration and endeavor to reshape procurement practices so as to increase contract awards to start-ups (including new firms still in the pre-start-up phase), giving them a break equivalent to that given small businesses.

Some of this could probably be accomplished as a subset of the small business set-aside and SBIR (Small Business Innovation Research) programs already in effect. It would, however, require segregating start-ups as a category separate from small business in general, for management tracking. This would require formulating criteria separate from degrees of smallness. Such criteria might include newness, as well as promise of effective performance which venture capitalists are continually forced to judge, and which they do judge using such criteria as technical and business track records of the founders, balance of the founding team, personal financial commitment by the founders, and so on. The experience of venture capitalists also suggests that a percentage of the start-ups would fail, but that the successful ones should more than make up for the failures.

Government acceptance of unsolicited proposals and rapid sole source funding with minimal red tape should be explored as a way of encouraging innovative start-ups, while at the same time companies that have already "had their turn" at federal procurement might be encouraged to seek commercial markets through a "weaning" process designed to ward off permanent dependency on the government. Programs in which the government deliberately makes itself the purchaser from new companies of innovative products and services with potential for later transfer to domestic or export commercial markets, should be experimented with in different forms. A precedent in this regard is the Energy-related Inventions Program of the U.S. Bureau of Standards, which seems to be showing considerable promise (Myers 1982; National Bureau of Standards 1981; Soderstrom 1982; Rorke 1982).

The role that can be played by large companies in fostering start-ups should also be considered. No study of that subject has been performed in the United States, but in Europe, Utterback (May 31, 1982, 104) observed that "We have seen that larger firms in Sweden play a highly creative role in providing technology, people and especially early markets for the companies in our sample." Specific means should be explored for encouraging U.S. government contractors, including universities as well as large companies, to foster start-ups through assistance as suppliers, trainers, customers, and sources of capital for spin-offs as well as for independent start-ups.

D. ENHANCED PROPRIETARY RIGHTS

For independent inventors and entrepreneurs, enhanced proprietary rights, as discussed earlier, represents an area wherein present improvement efforts already under way can contribute further. As noted earlier, the cost of obtaining a patent, plus litigating to enforce it, is far beyond what a typical independent entrepreneur or start-up company can afford, especially when one is pitted against a large company for which such costs are trivial. Beyond these dollar costs are other discouraging problems for a start-up. Litigation takes time, which a start-up can ill afford, but which poses little problem for a large rival. The odds are only fifty-fifty that the litigation will be won even if the start-up does last, and in some court jurisdictions the odds have historically been much poorer (for a start-up) than that. Even if it does win, the award received by the start-up may not nearly compensate for actual damages it sustains from an infringement. Hence, the theoretical protection that patents were originally intended to provide often does not in fact exist for start-ups.

Fortunately, reforms are already being worked on by people in the government, as well as by specialists in patent law, such as members of the Intellectual Property Owners Association in Washington, D.C. It is therefore *RECOMMENDED* that the search for better ways of assuring claim to proprietary ideas by individual inventors and entrepreneurs through improvement of the patent system and other means, should be continued.

At the same time, searching for ways to make unused ideas more available to entrepreneurs for start-up companies should also be continued. Disseminating information about government-held patents, seeking ways to encourage entrepreneurs to utilize them, including

the granting of exclusive licenses, and the requirement that companies which hold patents either utilize them fully or else grant rights to use them to their employees, as is done by the Law of Employee Inventions in Germany (Bollinger et al., forthcoming) should be considered. Therefore, it is *RECOMMENDED* that additional mechanisms should be sought for encouraging holders of unused patents to make them available to start-up ventures.

E. CAPITALIZING ON EDUCATION AND RESEARCH.

Government at state and local level, influenced by federal policies, runs most of the country's educational establishment up through high school. At college level state universities are a major sector, and the federal government is an important influence through its research funding and other policies, not only for them but for many private universities as well. Teacher selection, student mix, and administrative policies are influenced by federal policies at lower school levels, while scholarships, development of teaching materials and new courses, and research programs, are influenced at higher education levels by federal funding decisions.

The federal government has had an especially strong impact on research underlying new technology, and in support of technological education. In the case of many entrepreneurial start-ups which do not seem to have been in any way dependent upon federal policies, a closer look will reveal that in fact they were. Their technology may have originated in federally-supported research. Perhaps some of their key founders received technical higher education on a base of federal support. Most likely some of the professors they studied under did too. The question concerning federal policies and education is not whether they should play a role in connection with entrepreneurship, but whether the present role is the best that can be done. It is *RECOMMENDED* that substantially increased federal support for R&D in schools of engineering and physical science whose policies encourage faculty-industry interaction and faculty and staff entrepreneurship be explored.

There have already been some studies of entrepreneurship education, both to track its development and spread among universities (Vesper 1980(A)) and to report on its experimentation at all levels (McFarlane, December 1981; Sexton and Van Auken 1981; Webb et al. 1982). Innovation Centers sponsored by the National Science Foundation in prior years have all developed entrepreneurship courses as part of their activities, and have experimented with ways of forming ventures as means of transferring technology to the marketplace (Kent et al. 1982; Vesper 1981, 1982).

Missing in this tracking and experimentation has been both comprehensiveness and continuity; many of these experimental activities have been performed only once, without thorough review of the outcomes, and without follow-on trials aimed at capitalizing on what was learned. It is therefore *RECOMMENDED* that tracking, review, and further experimentation in entrepreneurship education be pursued on a continuing basis, with adequate financial support for doing the job well from one or more federal agencies, such as the U.S. Small

Business Administration, the National Science Foundation, or the U.S. Office of Education. The aim of this activity should be to develop further understanding of what policies and actions on the part of educational institutions have the most salutary impact on entrepreneurship, and to expand those activities that prove most worthwhile. Principally two types of education should both be considered in this process – technical education to produce engineers and scientists capable of contributing to high-technology start-ups, and entrepreneurship education aimed at fostering *all* types of start-ups, including service, retail, and manufacturing in conventional as well as high technology.

Reviews of options and recommendations for entrepreneurship education have been put forth by a group reporting to the Small Business Administration (November 1980) and also in a report by Grad and Shapero (1981). The latter report looks at possibilities in all levels of education and argues that the main level to emphasize should be university education, followed by secondary education, continuing education, career education, and programs for displaced people, and retirees, in that order. Within university education it advocates more research support, fellowships for doctoral and postdoctoral students, systematic support for societies, journals and scholarly works awards, and development of a clearing house for intelligence on entrepreneurship education, among other things. What is needed is to take such ideas and follow through with their implementation.

Beyond the educational dimension, attention should also be given to the potential for the direct creation of new ventures at and around universities. M.I.T. has spawned many, other schools such as Stanford, Texas, Michigan, and Carnegie-Mellon, have spawned some, many schools have spawned a very few, and most schools have spawned none. Study should be given to learn why this is so, and to identify options for stimulating more such start-ups. With such understanding, it will better be possible to follow through on a *RECOMMENDATION* that programs and policies be designed and adopted to foster more start-ups from and around institutions of higher education.

The entrepreneurship education proposals discussed above may help produce some of this desired effect. For instance, continuing education courses, lectures, and programs beamed at specific types of latent entrepreneurs currently employed elsewhere (and underemployed or underinspired) may produce some start-ups directly. Such programs should be attempted, but with the important proviso that they be systematically followed up over a period of years to learn what becomes of the alumni and how the course impact was influenced by the program and other surrounding circumstances, so that over time a "tuning" process can make the programs more effective.

Another possibility for affecting direct spin-offs can be the shaping of research procurement contracts given to universities with such an objective in mind. Research funding can be increased for university-based physical science and technology R&D programs, particularly those with potential civilian applications (U.S. SBA, May 28, 1980, 12).

This seems advisable anyway in view of the serious engineer shortage that is developing (Main 1982; Stone 1982).

But beyond that, provisions can be included to encourage commercialization of the research output by way of start-ups. Factors to be considered in evaluating proposals can include a school's posture, practices, and track record with respect to start-ups. What technology transfer mechanisms does the school have in place? Are faculty, staff, and students permitted or encouraged to participate in or provide consulting for start-ups? How many spin-offs have occurred? Are entrepreneurship training and research programs present and given support and status comparable to that given other fields? Do service activities of the institution include rendering assistance to entrepreneurs in the local community, and if so, is it part of the "main-line" activity of the school, or an adjunct activity? Are entrepreneurs of recent vintage included among membership of the distinguished advisory committees of the school, its board of trustees, or its award recipients? Does the school have policies that effectively promote use of its facilities in situations where they can be helpful for creating or testing products and services of potential new ventures? To what extent has the school explored or experimented with programs to foster start-ups?

Answers to such questions may give clues to a school's attitude toward encouraging start-ups, and that attitude might be considered as one of the dimensions in reviewing the school's proposals for federal funding. That is not to say it should be of primary importance in any case, or even that it should be considered in every case. In fact, it would be desirable not to have all schools be selected as having supportive policies toward start-ups, if for no other reason than to learn experimentally the extent to which such policies do or do not pay off. But to gain greater understanding it is important that the questions be asked.

F EXPLICIT RECOGNITION IN GOVERNMENTAL AGENCIES

In governmental agencies, explicit recognition of the distinction between "small business," which refers mainly to established and ongoing companies, versus "entrepreneurship," which refers mainly to the start-up of new companies not already ongoing, is something not as yet achieved. For instance, no chapter focusing upon entrepreneurship appeared in any of the thirteen volumes prepared by the U.S. Small Business Administration in 1980 (and summarized as *Economic Research on Small Business*), depicting the state of knowledge about small business across the nation, and no section was devoted to entrepreneurship in the report on the state of small business published by the SBA in March 1982. If entrepreneurship is to get the attention it deserves in policy making, it must be given more such recognition. Otherwise, it will continue to be lumped into the general category of small business, and start-ups will continue to be largely ignored in favor of ongoing companies.

Hence, it is *RECOMMENDED* that all federal agencies dealing with small business affairs should be formally alerted to the distinctiveness of entrepreneurship, and to its importance and responsiveness

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to help. Each agency should incorporate explicit statements of policy toward entrepreneurship or start-up of new firms. One particular agency should assume a leadership position in working with other agencies to carry out this program.

The way small business has been singled out in the past may offer some helpful precedents for making further distinctions concerning entrepreneurship as well. These have included formulating and defining terms of reference about the subject, establishing quotas and set-asides in purchasing, supporting, and carrying out pertinent programs of study and research for a better understanding of the subject, and segregating statistics into appropriate categories for tracking and analyzing progress.

Going still further with the precedents of small business, to set up special committees of Congress (the Senate has formed a subcommittee on entrepreneurship), or a parallel to the Small Business Administration for entrepreneurship, is probably beyond what is called for. Setting up a special office of advocacy for entrepreneurship as distinct from small business may not be.

G. DATA BASE RESEARCH AND USE

This will be essential for effective management of policies affecting entrepreneurship in the nation over a period of time. To some extent it will follow naturally from other recommendations above, but to be done well it will require separate and specific attention as well. It is therefore *RECOMMENDED* that the process of shaping and expanding data gathering and analysis begin now to provide a base for judging present efforts and other measures to be taken later. The initial data gathered should help provide a base line against which programs should be measured and also should be of help in designing further policy moves and experiments. Implicit in this planning process is the notion that programs which do not work well will be phased out in favor of those that work better, and in favor of additional experiments.

Five main data sources should be utilized as fully as possible, both for economy, and for maximizing quality and comprehensiveness. The first is the government, which collects statistics through untold numbers of channels, with more qualitative data derived through hearings and from its own research offices. Second are the popular business-related magazines, which are performing a great public service by collecting and disseminating news data concerning entrepreneurship. While the government should not seek to bring influence to bear on what these magazines print, it should insofar as possible be supportive of their existence and distribution. Maximum cooperation in providing information which the magazines request from the government should be accorded to them.

Third are private agencies that collect information on entrepreneurship. Examples: Capital Publishing Company in Wellesley, Mass., which specializes in venture capital data; and the Strategic Planning Institute in Cambridge, Mass., which has recently taken a special interest in

performance data on new ventures. It is likely that other such enterprises, as well as trade associations which would single out entrepreneurship for special attention, may spring up.

Fourth are universities and associated research institutes. These can be used not only to help with gathering data on entrepreneurship, but also to help with developing better understanding of what the data mean, and consequently disseminating that knowledge through articles, books, and courses. Some idea of what they have been able to accomplish with little to no support in that direction can be seen in proceedings of the last three annual conferences on entrepreneurship research (Kent et al. 1982; Vesper 1981, 1982) which were sponsored from the limited resources of private colleges (Babson College and Baylor University). With appreciable federal support for the research and such conferences, the results could be much greater.

Issues calling for further illumination through such research are legion. Some of them have been suggested by limitations of the data on which this study itself has been based, as noted on preceding pages. Still others appear in the paper by Grad and Shapero (Sept. 1981), with its reference to an "almost desperate need for the establishment of good data bases."

We should acquire a better understanding of just what the pay offs and the costs of entrepreneurship are for the economy and how the chemistry of entrepreneurship, including the pushes, pulls, barriers, and helps work, not just in general as described in this study, but in more quantitative detail and for more sharply defined varied industries. Studies should be made with the specific intention of better identifying and understanding "latent" entrepreneurs present in the economy, and what their needs would be for launching more successful new companies. Bearing importantly upon this would, in all likelihood, be the issue of incentives in the economic system for attempting start-up as opposed to pursuing other lines of work. How, for instance, do the expected work-loads, income levels, job security, and retirement benefits of attempting a new business compare to those encountered when attempting to build a medical practice, make it up the academic ladder, or pursue an executive career in business or government? The study of such issues might provide information helpful in weighing future government policy options in regard to taxing and spending.

An important reason for involving universities in the collection and analysis of data on entrepreneurship is that the educational function is accomplished as a by-product of that research process. Professors directly inject the findings of current research into their courses and become the better for it because they are working on frontiers of knowledge. Doctoral students who work on the research become specialists in entrepreneurship capable of carrying that speciality to other schools where they go to work after graduating, thereby spreading and enhancing the status of entrepreneurship as an academic discipline and helping to counterbalance the traditional "big business orientation" prevalent in most business schools.

The fifth and final general resource of knowledge about entrepreneurship consists of the numerous studies and experimental programs currently being pursued in foreign countries. Substantial programs have been mounted in several countries, including Australia, Canada, England, and Sweden, which in aggregate amount to millions of dollars worth of research. The fruits of that research can be available at very little cost to the United States if moderate amounts of funding are provided for staying in touch and disseminating the results in this country.

H. APPLAUDING EXEMPLARY ENTREPRENEURIAL PERFORMANCE

Awards, prizes and publicity can be a way of encouraging more people to attempt start-ups, particularly, perhaps, in less glamorous fields such as menial services, trades, and nonproprietary manufacturing. Some lines of start-up have already been given glory, particularly those in high technology. For instance, *Inc.* magazine has introduced awards for the most spectacular growth companies. But more could be done in that and other fields.

The federal government has exhibited considerable prowess at public relations in some lines of activity. Advertising programs have been widespread for recruitment of personnel to the armed forces. Perhaps a National Endowment for Entrepreneurship might be set up to enhance recognition, and to counteract some of the negative press that entrepreneurship receives in TV fiction programs and liberal arts literature.

It is *RECOMMENDED* that federal efforts be applied to giving greater recognition to exemplary entrepreneurial performance in creating new firms. This could include prizes and awards at various national levels, even White House presentation ceremonies. A small task force should be set up to consider these and other possible means of achieving more favorable public relations.

I. CONSIDERATION OF FURTHER POLICY ALTERNATIVES

For the still longer range, there are many other possible policy options that could be sought out, considered in light of what is learned from other experiments, and where appropriate, tested. Some of these may include direction changes towards what is unfashionable or politically too risky at the present time but may not be later on.

SUBSIDY programs wherein the government underwrites some costs under selective conditions should be considered. Results of the current Department of Energy and National Bureau of Standards programs as well as those of the National Science Foundation by means of which inventors are subsidized to pursue their new ideas, should be studied for their impact upon start-ups in addition to other results that may be produced through licensing of the inventions. Other emerging S.B.I.R. (Small Business Innovation Research) programs being introduced as the result of recent set-aside legislation should be similarly tracked for start-up results.

Still other subsidy programs that might be examined as well are: (1) the French Aide au Developpment program, which supports selected invention development projects at 50% on a "reimbursable in case of success" basis; (2) the Swedish Board for Technical Development program, which funds ideas through prototype development, and

(3) the Key Technologies program, which subsidizes invention in Germany. None of these programs has yet been notable for producing start-ups (Bollinger, forthcoming). But the reasons why should be investigated and other ways of operating such programs should be explored.

REGULATION CHANGES seem to cut both ways in affecting start-ups. It is easy to find small business owners with ongoing firms who complain about regulations, but were not prevented by those regulations from starting their businesses. It is hard to find people who report that they would have started firms but for regulations, except in a very limited number of industries, such as real estate development, industries that pollute, and others tightly controlled, such as pharmaceuticals. At the same time it is easy to find firms that were started in response to regulations. Companies that provide help in coping with taxes, affirmative action, and environmental impact statements, would be examples.

Few can argue with the notion of simplifying regulations and making them easier to deal with, even though that may reduce opportunities for such "red tape-cutting" start-ups. More debatable—some of the regulatory or legislative relaxations that might create start-up opportunities, especially if they involve touchy social or economic issues: for example, allowing entrepreneurial ventures that give employment to convicts, even though such ventures have shown they can generate numerous substantial benefits (Shedd 1982). Further such moves could include relaxation of rules that give monopoly advantages to utilities and the postal service. Repealing the Davis-Bacon Act would open opportunities to new construction companies. The introducing of right-to-work legislation would be likely to unfreeze many industries in ways that would open opportunities for new competitors to start, especially in industries that currently have difficulty exporting because of high U.S. labor costs. Elimination or reduction of the minimum wage, at least for young people, would be apt to lead to start-ups in personal service industries, and to the consequent employment of many whose lack of skills currently cuts them off from jobs.

REMOVAL OF PROPS in still other industries could increase competitive opportunities for start-ups. If Chrysler, Penn Central, Seatrain, and Lockheed had been allowed to go under, that might have created opportunities for other new start-ups. Similarly, reduction of tariffs might depress sales of some companies whose high cost structures those tariffs now protect, but it could create corresponding and perhaps greater opportunities not only for other existing companies that export, but for start-ups as well in both exporting and importing.

These are admittedly sticky issues politically. Some or all may be impossible for that reason, or impracticable for other reasons. It is not, therefore, advocated here that they be adopted, but it is *RECOMMENDED* that a creative analytical examination be made of other options for encouraging entrepreneurship, encompassing those that appear feasible in the near future, and others which may become justified under different conditions in the longer term future.

It can also be argued, as some do, that government should stay out of concerning itself with entrepreneurship as well. But three points should be noted: First – the fact that these last issues of deregulation and prop removal are politically sensitive suggests not only that the government is already involved in policies which impact upon entrepreneurship, but that it is not very likely to withdraw from many, if any, of them. Government is aleady *in* the entrepreneurship policy business to stay.

Second – the fact that in many start-ups where it may *seem* that government policies did not play an important role, such appearance may be an illusion. A closer look may reveal that not only did government policies influence such things as the availability of capital, but especially in cases of high-technology ventures it also underwrote much of the basic underlying technology and assisted the institutions which trained members of the start-up team that capitalized on that technology.

Third – it is not possible to make a tight case against deliberate policies to foster entrepreneurship until first they are tested and evaluated to see what they can deliver. The adoption of an experimental approach has been intended as an underlying theme throughout this discussion. If a given policy fails to deliver when it is tried, then it should be discarded and others of more promise should be tried. That way we can learn what truly will work best, whereas if we fail to experiment we may be able to conjure up eloquent rationalizations that we are doing as well as we can. But we will never know.

XI. BIBLIOGRAPHY

Abrahamson, Sherman R. 1982. "Six Proposals for Encouraging Innovation and Entrepreneurship," paper presented at the Spring Conference on Small Business in the 1980s, Bethlehem, Pennsylvania, May 26.

Adams, Jane. 1981."Making Good." New York: Morrow.

American Business. 1982. February, 3.

American Electronics Association. 1978. Statement Before the House Committee on Ways and Means, March 7.

Armingdon, Catherine, and Odle, Marjorie. 1982. *Sources of Employment Growth, 1978-1980.* Washington, D.C.: Brookings Institution, March.

Bachman, Jerald G., and O'Malley, Patrick M. 1979. *Monitoring the Future.* Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor.

Baker, H. Kent. 1981. "The Cost and Availability of Credit Venture Capital." In *Economic Research on Small Business: The Environment for Entrepreneurship and Small Business, Summary Analysis of the Regional Research Reports,* 77. U.S. Small Business Administration. Washington, D.C.: U.S. Government Printing Office.

Baumann, Dwight M. 1981. "Second Generation Innovation Center Entrepreneurs." In *Frontiers of Entrepreneurship Research,* edited by Karl H. Vesper, 428-42.

Berney, Robert E. 1982. "The Uneven Impacts of Government Policy on Small Business." In *The Restructuring Economy,* edited by Ann Eskesen, 404-10.

———. 1981. "Picking Winners in the Race to Revitalize the U.S. Economy," *Inc.* February, 16.

Bernier, Jacques, and Hay, Robert D. 1981. "Creating New Companies in a Canadian University." In *Frontiers of Entrepreneurship Research,* edited by Karl H. Vesper, 402-12.

Birch, David L. 1981. "Who Creates Jobs?" *The Public Interest* 65, Fall.

———. 1979. *The Job Generation Process.* M.I.T. Program on Neighborhood and Regional Change, Cambridge: Massachusetts Institute of Technology, January.

Birch, David L., and McCracken, Susan. 1981. *Corporate Evolution: A Micro-Based Analysis.* M.I.T. Program on Neighborhood and Regional Change, Cambridge: Massachusetts Institute of Technology, January.

Blair, John M. 1972. *Economic Concentration.* New York: Harcourt Brace Jovanovich.

Bollinger, Lynn; Hope, Katherine; and Utterback, James M. 1983. "Technology and Industrial Innovation in Sweden, A Review of the Literature and Hypotheses on New Technology-Based Firms," In *Research Policy,* forthcoming.

Boston Consulting Group. 1970. *Perspectives on Experience.* Boston.

Brinner, R. 1978. *Technology, Labor and Economic Potential.* Lexington, Mass: Data Resources, Inc.

Brockhaus, Robert H., Sr. 1982. "The Psychology of the Entrepreneur." In *Encyclopedia of Entrepreneurship,* edited by Calvin A. Kent et al., 39.

———. 1980. "Risk Taking Propensity of Entrepreneurs," *Academy of Management Journal* 23,509.

Brown, Wayne S. 1982. "The Utah Innovation Center: An Experiment in Entrepreneurship." In *Frontiers of Entrepreneurship Research,* edited by Karl H. Vesper, 458.

Brown, Wayne S.; Johnson, Ramon E.; and Bowen, William R. 1981. "Utah Launching Pad for New Enterprises." In *Frontiers of Entrepreneurship Research,* edited by Karl H. Vesper, 395-401.

Bruno, Albert V., and Tyebjee, Tyzoon T. 1980. "The Environment for Entrepreneurship." In *Encyclopedia of Entrepreneurship,* edited by Calvin A. Kent et al., 288-306.

Business Week Editors. 1982. *The Reindustrialization of America.* New York: McGraw-Hill.

Bylinsky, Gene. 1976. *The Innovation Millionaires.* New York: Scribner.

Caldwell, Robert F.; Clark, Douglas L.; and Smith, Gary L. 1979. *How Small Business in Washington State Can Be Helped.* Olympia: Washington State Department of Commerce and Economic Development, March.

Center for Policy Alternatives. 1982. *Policy Choices.* Cambridge: M.I.T. Press, Spring.

Charpis, Robert. 1967. *Technological Innovation: Its Environment and Management.* U.S. Department of Commerce: Report of the panel on invention and innovation (Robert Charpis, chairman). Washington, D.C.: U.S. Government Printing Office.

Citizens' League. 1977. *Helping the Economy Change.* Minneapolis: Citizens' League, June 29.

Cloherty, Patricia M. 1978. Statement before the Committee on Small Business. United States Senate, January 23.

Collins, Orvis, and Moore, David. 1964. *The Enterprising Man.* MSU Business Studies. East Lansing: Michigan State University.

Commerce Technical Advisory Board. 1978. *Recommendations for Creating Jobs Through the Success of Small Innovative Businesses.* Report to Jordan J. Baruch, Assistant Secretary of Commerce for Science and Technology, December.

Comptroller General. 1981. *Consistent Criteria Are Needed to Assess Small Business Innovation Initiatives.* Report no. PAD-81-15, Washington, D.C.: U.S. General Accounting Office, July.

Cooper, Arnold C. 1980. *Entrepreneurship: Starting A New Business.* San Mateo, Calif.: National Federation of Independent Business.

———. 1973. "Technical Entrepreneurship: What Do We Know?" *R&D Management* 3, February, 63.

———. 1972. "Incubator Organizations and Technical Entrepreneurship." In *Technical Entrepreneurship: A Symposium,* edited by Arnold C. Cooper and John L. Komives. Milwaukee, Center for Venture Management.

Cooper, Arnold C., and Bruno, Albert V. 1977. "Success Among High-Technology Firms." *Business Horizons,* April, 16-22.

Cooper, Arnold C., and Dunkelberg, William C. 1979. *The Regional Environment for Small Business and Entrepreneurship in Region V.* Washington, D.C.: U.S. Small Business Administration report no. SBA-1580-DA-78, Fall, 1-12 and 338.

Cooper, Arnold C., and Komives, John L., eds. 1972. *Technical Entrepreneurship: A Symposium.* Milwaukee: Center for Venture Management.

Daniels, Belden, and Barbe, Nancy. 1981. "Development Finance: The New England Experience Reconsidered." Cambridge, Mass.: Council for Community Development, Inc., February 9.

Daniels, Belden, and Kieschnick, Michael. 1979. "Development Finance: A Primer for Policymakers." Cambridge, Mass.: Council for Community Development, Inc.

Delano, Myles S.; Johnson, Dudley W.; and Woodworth, Robert T. 1966. *The Entrepreneurial Process.* Seattle: School of Business, University of Washington.

Deloitte Haskins and Sells. 1981. *Cost-Benefit Study of the Small Business Investment Company Program.* New York, October.

Deloitte Haskins and Sells, and Arthur D. Little. 1982. *Summary of the Economic Impact of the Small Business Investment Company Program.* Washington, D.C.: National Association of Small Business Investment Companies.

Dizard, John W. 1982. "Do We Have Too Many Venture Capitalists?" *Fortune,* October 4, 106.

Dooley, Arch R. 1972. "Graduate Student Views of Entrepreneurship and Courses on Entrepreneurship." In *Technical Entrepreneurship,* edited by Arnold C. Cooper and John L. Komives, 210.

Doutriaux, Jerome, and Peterman, Branko F. 1982. "Technology Transfer and Academic Entrepreneurship." In *Frontiers of Entrepreneurship Research,* edited by Karl H. Vesper, 430-48.

Draheim, Kirk P. 1972. "Factors Influencing the Rate of Formation of Technical Companies." In *Technical Entrepreneurship,* edited by Arnold C. Cooper and John L. Komives, 55.

Eskesen, Ann, 1982. *The Restructuring Economy, Proceedings of the Bentley Small Business Conference.* Waltham, Mass.: Bentley College, 1982.

——— 1981. *Setting the Research Agenda: Proceedings of the Bentley Small Business Conference.* Waltham, Mass.: Bentley College, March 5.

Florman, Samuel C. 1977. "Small is Dubious." *Harper's,* August 10.

Freeman, Christopher. 1974. *The Economics of Industrial Innovation.* Baltimore: Penguin Books.

Pyffe, David E. 1981. "The Cost and Availability of Credit Venture Capital." In *Economic Research on Small Business: The Environment for Entrepreneurship and Small Business, Summary Analysis of the Regional Research Reports,* 91. U.S. Small Business Administration. Washington, D.C.: U.S. Government Printing Office.

Gasse, Yvon. 1982. "Elaborations on the Psychology of the Entrepreneur." In *Encyclopedia of Entrepreneurship,* edited by Calvin A. Kent et al., 66.

Gellman Research Associates, Inc. 1976. "Indicators of International Trends in Technological Innovation," Report of the National Science Foundation, Washington, D.C. April.

Gerstenfeld, Arthur. 1977. "Government Regulation Effects on the Direction of Innovation: A Focus on Performance Standards." *IEEE Transactions on Engineering Management,* EM-24, 3, August, 82-6.

Grad, Marcia, and Shapero, Albert. 1981. "Federal and State Policies for Entrepreneurship Education." U.S. Small Business Administration, Washington, D.C., September.

Hafer, Dick. 1980. *You're Not Supposed to Get Mugged by Your own Army.* New York: Julie Research Laboratories.

Hamberg, Daniel. 1963. "Invention in the Industrial Research Laboratory." *The Journal of Political Economy* 71, 2, 95-115.

Harris, G.L. 1981. "What Problems are Encountered When Dealing with the Federal Government?" In *Setting the Research Agenda,* edited by Ann Eskesen, 185.

Heckman, John S., and String, John S. 1981. "The Evolution of New England Industry." *New England Economic Review,* March, 38.

Heller/Roper. 1980. *Small Business Barometer.* Chicago: Heller Small Business Institute.

Hoad, William M., and Rosko, Peter. 1964. "Management Factors Contributing to the Success and Failure of New Small Manufacturers." Ann Arbor: Bureau of Business Research, University of Michigan.

Hoffman, Cary. 1972. "Role of the Financial Community in the Formation, Growth and Effectiveness of Technical Companies: The Attitude of Commercial Loan Officers." In *Technical Entrepreneurship,* edited by Arnold C. Cooper and John L. Komives.

Hogarty, T.F. 1979. "The Profitability of Corporate Mergers." Journal of Business 43, July, 389.

Hornaday, John, and Vesper, Karl H. 1981. "Alumni views of an Entrepreneurship Course After Five to Seven Years." In *Entrepreneurship Education, 1981,* edited by Donald L. Sexton and Philip M. Van Auken, 151-81.

Hosmer, W. Arnold. 1957. "Small Manufacturing Enterprises," *Harvard Business Review,* November-December, 111-22.

Hosmer, L.T.; Cooper, Arnold C.; and Vesper, Karl H. 1977. *The Entrepreneurial Function.* Englewood Cliffs, N.J.: Prentice-Hall.

Iandiorio, Joseph. 1982. "Current Innovation Law and Interpretation." In *The Restructuring Economy,* edited by Ann Eskesen, 252-61.

——— 1981. "Small Business and Innovation." In *Setting the Research Agenda,* edited by Ann Eskesen, 295-304.

Jewkes, John; Sawers, David; and Stillerman, Richard. 1969. *The Sources of Invention.* 2d ed. New York: W.W. Norton.

Joray, P.; Kochanowski, P.; and Peck, J. 1982. "A Study to Determine the Alternative Taxes on Small Business." In *The Restructuring Economy,* edited by Ann Eskesen, 128.

Kams, David, and Premus, Robert. 1982. "Impact of Government Regulations on Small Business." In *The Restructuring Economy*, edited by Ann Eskesen, 352-81.

Kent, Calvin A.; Sexton, Donald L.; and Vesper, Karl H. 1982. *Encyclopedia of Entrepreneurship*. Englewood Cliffs, N.J.: Prentice-Hall.

Krasner, O.J. 1982. "The Role of the Entrepreneurs in Innovation." In *Encyclopedia of Entrepreneurship*, edited by Calvin A. Kent et al.

Lamont, Lawrence M. 1972. "The Role of Marketing in Technical Entrepreneurship." In *Technical Entrepreneurship*, edited by Arnold C. Cooper and John L. Komives.

Legler, John, and Hoy, Frank. 1982. *Building a Comprehensive Data Base on the Role of Small Business*. Chicago: Heller Small Business Institute.

Liles, Patrick R. 1974. *New Business Ventures and the Entrepreneur*. Homewood, Ill.: Irwin.

Lippitt, Jeffrey, and Schultz, Sally. 1982. "The Impact of Size on Efficiency in Manufacturing Industries." In *The Restructuring Economy*, edited by Ann Eskesen, 280.

Main, Jeremy. 1982. "Why Engineering Deans Worry A Lot." *Fortune*, January 11, 84-90.

McClelland, David C. 1961. *The Achieving Society*. Princeton, N.J.: D. Van Nostrand.

McClelland, David C., and Winter, David G. 1969. *Motivating Economic Achievement*. New York: Free Press.

McFarlane, Carolyn. 1981. "Stimulating Entrepreneurship Awareness in High School Students," *Journal of Career Education*, December, 135-44.

Morse, Richard. 1981. "The Capital Gap." In *Setting the Research Agenda*, edited by Ann Eskesen.

Morse, Richard, and Flender, John O. 1976. *The Role of New Technical Enterprises in the U.S. Economy*. Technical Advisory Board, U.S. Department of Commerce, Washington, D.C.: U.S. Government Printing Office.

Mueller, Willard F. et al. 1979. "Market Structure and Technological Performance in the Food Manufacturing Industry," University of Wisconsin, Madison.

Myers, Sumner. 1982. "Policy Implications for Small Business of ERIP Experience." In *The Restructuring Economy*, edited by Ann Eskesen, 500-504.

National Bureau of Standards. 1981. *Status Report on the Energy-Related Inventions Program as of March 31, 1981*. Washington, D.C.: U.S. Government Printing Office.

Obermayer, Judith H. 1982. "Protection Strategies for the Technical Entrepreneur." In *Frontiers of Entrepreneurship Research, 1982*, edited by Karl H. Vesper, 254-69.

———. 1981. *The Role of Patents in the Commercialization of New Technology for Small Innovative Companies*. Cambridge, Mass.: Research and Planning Institute, Inc., August.

———. 1980. *Case Studies Examining the Role of Government R&D Contract Funding in the Early History of High Technology Companies*. Cambridge, Mass.: Research and Planning Institute, Inc., July.

Office of Tax Analysis. 1979. *Earnings, Including Compensation of Officers, for Profit and Loss Corporations*. Office of the Secretary of the Treasury, Washington, D.C.: U.S. Government Printing Office, October 4.

Peterson, Rein. 1981. "Determinants of Small Business Success." In *Proceedings of the Eighth International Symposium on Small Business*. Ottawa, Ontario: October 19, 297.

Pratt, Stanley E. 1982. "Financial Community Perspectives." In *Finance and Utilization of Solar Energy*, edited by Narinder S. Kapany. Conference Proceedings. Santa Cruz: University of California, 19-29.

———. 1981. "The Floodgates are Open," *Inc.*, June, 132.

Pricer, Robert W. 1979. Incentives for Increased Small Business Exporting." In *The Regional Environment for Small Business and Entrepreneurship in Region V*. Washington, D.C.: U.S. Small Business Administration report no. SBA-1580-DA-78. Fall, 338-82.

Ramo, Simon. 1981. "American's Technology Slip," *Technovation* (Amsterdam) 1, February, 6.

Roberts, Edward B. 1972. "Influence Upon Performance of New Technical Enterprises." In *Technical Entrepreneurship* edited by Arnold C. Cooper and John L. Komives.

———. 1969. "Entrepreneurship and Technology." In *Factors in the Transfer of Technology* edited by W. Gruber and D. Marquies, Cambridge: M.I.T. Press.

Roberts, Edward B., and Wainer, H.A. 1968. "New Enterprises on Route 128," *Science Journal*, December.

Robidoux, Jean. 1981. "The MBA Student and Entrepreneurship at the University of Sherbrook." In *Entrepreneurship Education, 1981*, edited by Donald L. Sexton and Philip M. Van Auken.

Rodenberger, Charles A., and McCray, John. 1981. "Startups From a Large University in a Small Town." In *Frontiers of Entrepreneurship Research*, edited by Karl H. Vesper, 84.

Rorke, Marcia G. 1982. "Bridging the Gap Between R&D and Commercialization: A Government Role in Innovation." In *The Restructuring Economy*, edited by Ann Eskesen, 514-21.

Rothwell, Roy, and Zegveld, Walter. 1981. *Industrial Innovation and Public Policy*. London: Frances Pinter Publishers, Ltd.

Rotter, J.B. 1966. "Generalized Expectancies for Internal Versus External Control of Reinforcement." *Psychological Monographs*.

Samuelson, Robert J. 1982. "Big on Small Ideas," *Washington Post*, November 23, C7.

Schell, Douglas. 1982. "Entrepreneurial Implications of the Small Business Investment Incentives Act." In *Frontiers of Entrepreneurial Research*, edited by Karl H. Vesper, 270-87.

Schlaiffer, Robert. 1950. "Big Business and Small Business, A Case Study," *Harvard Business Review* 28, July, 97.

Schumacher, E.G. *Small is Beautiful*. New York; Harper & Row, 1973.

Sexton, Donald L., and Van Auken, Philip M. 1981. *Entrepreneurship Education, 1981*. Baylor University, Waco, Texas: Hankamer School of Business.

Shapero, Albert. 1981. "Why Don't Your Kids Want to be Entrepreneurs?" *Inc.*, September 13.

———. 1981. "Entrepreneurship: Creativity and Resilience in Action." In *Economic Renewal in the 1980's* (prepared for the National Urban Policy Roundtable), January, 5.

———. 1972. "The Process of Technical Company Formation in a Local Area." In *Technical Entrepreneurship*, edited by Arnold C. Cooper and John L. Komives, 88.

———. 1971. *An Action Program for Entrepreneurship*. Austin, Texas: Multi-disciplinary Research.

Shapero, Albert, and Guglierano, Joseph. 1982. "Exits and Entries: A Study in Yellow Pages Journalism." In *Frontiers of Entrepreneurship Research*, edited by Karl H. Vesper, 113-41.

Shapero, Albert, and Sokol, Lisa. 1982. "The Social Dimensions of Entrepreneurship." In *Encyclopedia of Entrepreneurship*, edited by Calvin A. Kent et al., 79.

Shedd, Jeffrey. 1982. "Making Goods Behind Bars," *Reason*, March, 23.

Smollen, Leonard E., and Levin, Mollay A. 1979. "The Role of Small Business in Research Development, Technological Change and Innovation in Region I." In *A Region's Struggling Savior*, edited by Jeffrey A. Timmons and David E. Gumpert.

Soderstrom, E.J. 1982. "Invention and Innovation by Individuals and Small Businesses: The Evaluation of the Energy-Related Inventions Program." In *The Restructuring Economy* edited by Ann Eskesen, 505-13.

Sommers, Paul, and Cole, Roland J. 1982. "Regulatory Compliance Costs of Small and Larger Business." In *The Restructuring Economy*, edited by Ann Eskesen, 382-403.

Soukup, William R. 1982. "The Fading Importance of Economies of Scale." *The Collegiate Forum*, New York: Dow Jones, Spring, 4.

Stacey, Nicholas A. H. 1980. "The Sociology of the Entrepreneur." Lecture delivered at McMaster University, Faculty of Business, Hamilton, Ontario, October 29.

Stone, Marvin. 1982. "A Scary Shortage," *U.S. News and World Report*, March 15, 88.

Stroetmann, Karl A. 1977. "Innovation in Small and Medium Sized Firms." Working paper presented at Institut Fur Systemchnik und Innovationsforschung, Karlsruhe, West Germany, August.

Susbauer, Jeffrey C. 1972. "The Technical Entrepreneurship Process in Austin, Texas." In *Technical Entrepreneurship*, edited by Arnold C. Cooper and John L. Komives.

———. 1969. "The Technical Company Formation Process: A Particular Aspect of Entrepreneurship." Ph.D. Diss., University of Texas.

Swayne, Charles, and Tucker, William. 1973. *The Effective Entrepreneur*. Morristown, N.J.: General Learning Press.

Thorne, John R. 1982. "Nurturing Technology-based Companies." Lecture presented at the RGK Foundation Conference on Entrepreneurship for the 80's, University of Texas, Austin, March 26-27.

Thorne, John R., and Ball, John G. 1981. "Entrepreneurs and Their Companies." In *Frontiers of Entrepreneurship Research*, edited by Karl H. Vesper, 65-83.

Timmons, Jeffrey A. 1982. "New Venture Creation: Models and Methodologies." In *Encyclopedia of Entrepreneurship*, edited by Calvin A. Kent et al.

Timmons, Jeffrey A., and Gumpert, David E. 1979. "A Region's Struggling Savior: Small Business in New England." U.S. Small Business Administration, Washington, D.C.: U.S. Government Printing Office.

Tyebjee, Tyzoon, and Bruno, Albert V. 1982. "A Comparative Analysis of California Startups from 1978 to 1980." In *Frontiers of Entrepreneurship Research*, edited by Karl H. Vesper, 163-76.

United Nations. 1977. *Statistical Handbook*, New York.

U.S. Department of Justice. 1979. *Conglomerate Mergers, Small Business and the Scope of Existing Antimerger Statutes*, Washington, D.C.: U.S. Government Printing Office, June 20.

U.S. General Accounting Office. 1982. *Government-Industry Cooperation Can Enhance the Venture Capital Process*. Report number GAO/AFMD-82-35, Washington, D.C., August 12, 7, Appendix V.

———. 1981. *Small Businesses Are More Active As Inventors Than As Innovators*. Report number PAD-82-18, Washington, D.C., December 31, 1981.

U.S. Small Business Administration. 1982. *The State of Small Business: A Report to the President Transmitted to the Congress*. Washington, D.C.: U.S. Government Printing Office.

———. 1980(A). *Entrepreneurial Education: A Focus for the 80's*. Washington, D.C.: SBA Office of Advocacy.

———. 1980(B). *Productivity, Innovation and Small Business Entrepreneurship*. Hearing before the Chief Counsel for Advocacy in San Francisco, March 11, Washington, D.C.: SBA Office of Advocacy.

———. 1980(C). *Productivity, Innovation and Small Business Entrepreneurship*. Hearing before the Chief Counsel for Advocacy, St. Paul, April 23. Washington, D.C.: SBA Office of Advocacy.

———. 1980(D). *Productivity, Innovation and Small Business Entrepreneurship*. Hearing before the Chief Counsel for Advocacy, Boston, May 28. Washington, D.C.: SBA Office of Advocacy.

———. 1980(E). *The Environment for Entrepreneurship and Small Business: Summary Analysis of the Regional Reports*. Washington, D.C.: U.S. Government Printing Office.

———. 1980(F). *Economic Research on Small Business: The Environment for Entrepreneurship and Small Business*. Washington, D.C.: SBA Office of Advocacy.

Small Business United. 1982. *Small Business, The Economic Engine.* Milwaukee: Small Business United, May.

Upthegrove, H. Nelson. 1977. Statement on S. 972. New Enterprise Institute, University of Maine, at Portland-Gorham, April 20.

Upthegrove, H. Nelson, and Bernstein, Rosalyne S. 1976. "Incentives for Innovation, A Study of Innovation in Maine Industry." Institute for Innovative Enterprise, Center for Research and Advanced Study, University of Maine at Portland-Gorham, November 20.

Utterback, James M., and Göran Reitberger. 1982. *Technology and Innovation in Sweden: A Study of New Technology-Based Firms.* Report No. CPA/82-06/A. Cambridge: M.I.T. Center for Policy Alternatives, May 31.

Utterback, James M., and Murray, Albert E. 1977. *The Influence of Defense Procurement and Sponsorship of Research and Development on the Development of the Civilian Electronics Industry.* Cambridge: M.I.T. Center for Policy Alternatives.

Vesper, Karl H. 1982. *Frontiers of Entrepreneurship Research.* Babson Center for Entrepreneurial Studies, Babson College, Wellesley, Mass.

———. 1981. *Frontiers of Entrepreneurship Research.* Babson Center for Entrepreneurial Studies, Babson College, Wellesley, Mass.

———. 1980(A). *Entrepreneurship Education.* Babson Center for Entrepreneurial Studies, Babson College, Wellesley, Mass.

———. 1980(B). *New Venture Strategies.* Englewood Cliffs, N.J.: Prentice-Hall.

Vesper, Karl H., and Hornaday, John A. 1981. "Alumni Perceptions of Entrepreneurship Courses After Six to Ten Years." In *Entrepreneurship Education,* edited by Donald L. Sexton and Philip M. Van Auken.

Von Hippel, Eric. 1981. *Increasing Innovators' Returns From Innovation.* Report WP# 1192-81, Sloan School, M.I.T., Cambridge, February.

———. 1979. "Appropriability of Innovation Benefit as a Predictor of the Functional Locus of Innovation." Report WP# 1084-79, Sloan School, M.I.T., Cambridge, June.

Watkins, David S. 1982. "Use of Competitions to Stimulate Business Formations." In *Frontiers of Entrepreneurship Research,* edited by Karl H. Vesper, 469-84.

Webb, Terry; Quince, Thelma; and Watkins, David. 1982. *Small Business Research; The Development of Entrepreneurs.* Hampshire, England: Gower Publishing.

Wetzel, William E., Jr. 1982. "Project I-C-E: An Experiment in Capital Formation." In *Frontiers of Entrepreneurship Research,* edited by Karl H. Vesper, 335-57.

Wetzel, William E., Jr. 1981. "Informal Risk Capital in New England." In *Frontiers of Entrepreneurship,* edited by Karl H. Vesper.

Zupnick, Jan William. 1981. "Reindustrialization Through New Enterprise Development," *The Collegiate Forum.* New York: Dow Jones, Spring, 6.

Mr. NOWAK. We want to thank everyone for their participation.

Mr. DALTON. Mr. Chairman.

Mr. NOWAK. Yes, you have one question?

Mr. DALTON. Gentlemen, say I had $5,000 or $10,000 to invest, or to do something with. Under the current laws under which we are operating, why should I invest that either with your firm, your private firm, or in a MESBIC, as opposed to just leaving it, say, in a money market fund?

Mr. BURNS. I am prepared to answer that first, if I may, and the answer is that you would not. The amount of money that you could devote to the task that you are attacking, the opportunity for, unfortunately, in the MESBIC industry, the overall opportunity for major gain in the near term is not there and it is higher risk kind of investing. So that your normal incentive would be to go for lower risk, more-guaranteed income.

I think it is the kind of situation where you have people investing in mutual funds, rather than picking individual names for themselves. If there were some incentive, or at least some reduction of the obstacle, then I think you might find people—not vast numbers, mind you—but you might find here, there and various other places, people who are prepared to assume some of the risks because "it can be fun;" you are dealing with a smaller growth-oriented situation; you are working in a vital area of the economy. There is opportunity for upside. There is some final push that gets you to do that.

I do not think that it presently exists, however, at least for our slice of the universe.

Mr. SWARTZ. By definition, we operate on a private basis and so, therefore, we are effectively precluded from taking investors at the $5,000 or $10,000 or $15,000 area. However, there are today some vehicles available which are professionally managed and I think ought to do as well or perhaps even better than we do, and they are available to the public.

I would mention specifically that Merrill Lynch marketed a public venture fund about 2 years ago. The people that manage that fund for Merrill Lynch are very professional people, have been in the business for a number of years. I know them personally.

They have certain restrictions that we do not have, but in general, if you did want to participate in the small company—let's not call it venture capital—that would be a good place to start.

In addition to that, there are an increasing number of more classical mutual funds becoming available. These funds are typically invested more in already public, emerging growth companies. If you assume that you want to put some of your assets in the equity market, as opposed to the debt market, one of those professionally managed funds would be a good thing to do. That is what I would advise anybody.

Mr. BURNS. May I add? I had forgotten about the Merrill Lynch kind of fund. Those funds, and of course, the mutual funds, in the emerging growth companies, speak not at all in our experience to the capital needs of the smaller starting businesses with modest capital needs.

We happen to be—we just recently committed to make an investment with another MESBIC in a Vietnam-era veteran-owned busi-

ness, a total commitment between the two companies for $600,000, which is not an insignificant amount of money.

It actually was referred to us from Merrill Lynch because they said, although they liked the project, it was of a size that they just could not effectively focus on. Now, I do not know whether that is the kind of problem that you would see all the time or whether it just happened to be that particular case, but that is a problem. There is a middle market that is not being effectively addressed.

Mr. SWARTZ. Mr. Chairman, if I may, with all due respect to Mr. Burns, I would like to make one point.

I think I am being painted a little bit as focusing only on the larger sector of our industry. That is a very, very fundamental mistake. We probably made 5 or 10 investments in this calendar year—that shows you how on top of it I am—but somewhere between 5 and 10 investments were made in calendar year 1983. I would guess that the average investment there for us is a couple of hundred thousand dollars.

We make investments with our funds as low as $20,000. Our typical investment is in the $200,000, $300,000, $500,000 area. Occasionally we make $1 million investments.

I think that is true of a large number of the members of our industry. After 2 or 3 or 4 years go by and you make a second and a third and a fourth investment—you may end up with $2 million or $3 million or $4 million committed to any one business activity, but the initial investment decision in many cases is not a large investment.

Mr. NOWAK. As we have been able to perceive, there are different types of investments, different SBIC's and different venture capital. I do not know if the size of dollars really mandates or shows much of a difference. Maybe it is types of investment, but at least they have always been based upon, as far as I can see, that there is chance, an opportunity for success and growth.

I think whether it is $1 million, which I am sure will carry a little more investigation than a $10,000 loan, there is still the basic judgment made that they will and can succeed with whatever dollars are invested. I am sure that in many instances they complement each other.

If Merrill Lynch would not do that one, at least they have somebody else out there to turn to. It might work the reverse sometime, too, I suppose, but overall, again, we have got to find a vehicle to make all investment, rather than just pure savings, more attractive.

So once again, let me just conclude these hearings. We will adjourn them and look forward to other rounds of getting into more specifics that were brought out today.

Thank you very much.

[Whereupon, at 1:05 p.m., the subcommittee adjourned, to reconvene subject to call of the Chair.]

APPENDIX

FORMATION OF A STATE EXPORT BANK URGED BY CAREY AND A STUDY PANEL

(By Frank J. Prial)

The establishment of a new bank to underwrite exports by small and medium-sized New York companies was recommended yesterday by a state advisory panel and strongly endorsed by Governor Carey.

The bank would be financed jointly by legislative appropriations and contributions from private financial institutions in the state, according to Theodore C. Sorensen, a lawyer who headed the advisory group.

Speaking at a news conference here, Governor Carey noted that high interest rates had "made it difficult for American firms to match the financing terms offered by their counterparts overseas."

The new bank would help fill the gap left by the current phasing out of the Federal Export-Import Bank's discount loan program.

The State Commerce Commissioner, George C. Dempster, a member of the panel, predicted that the proposed state export bank could offer 12.5 percent loans to qualified exporters who are now paying 16 percent or more. He noted at the same time that overseas exporters can get 11 or even 10 percent financing from their governments.

"The object of this bank," Mr. Dempster said, "is to regain our competitive position in world commerce," and he noted that the United States' share of world trade had dropped from 18 percent to 12 percent since 1960.

The Advisory Panel on State Export was appointed by Governor Carey in March to study a report commissioned by the State Department of Commerce. These were among its findings:

Continued growth in New York State industry and agriculture and at least 189,000 manufacturing jobs depend on successful exports.

Access to export financing at fixed and competitive rates is a crucial need of New York companies seeking to increase foreign sales.

Among its recommendations were these:

The proposed bank should be capitalized at $250 million. Of this, $50 million would be equity; half from the state and half contributed by banks and other members of the financial community. The rest, $200 million, would be borrowed by the new bank, initially from both private institutions and public authorities such as the Port Authority of New York and New Jersey.

New York State should seek Federal legislation to create Federal tax-free International Trade Bonds as a source of capital.

"Within carefully defined limits," the proposed State Export Bank should be authorized to offer supplemental export insurance, financial guarantees against commercial and political risk, and export counseling to its small and medium-sized business customers.

PAUL, WEISS, RIFKIND, WHARTON & GARRISON,
New York, N.Y., August 18, 1982.

Hon. HUGH L. CAREY,
The Governor, State of New York, Albany, N.Y.

DEAR MR. GOVERNOR: On behalf of the Advisory Panel on State Export Finance that you appointed earlier this year, I have the honor of submitting to you our final report. Having carefully reviewed the comprehensive consultant's study of this matter commissioned by the State Department of Commerce as well as supplementary studies requested by our Panel, and having received additional information

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from Commerce Commissioner Dempster, we have unanimously adopted the attached report in support of a new state export finance program.

Permit me to take this opportunity to commend you and Commissioner Dempster on the innovative leadership you have displayed in this initiative of potentially great significance to our State's continued economic vitality. It has been our privilege to have been of some small service to you and the State in this matter, and we hope to be available for any follow-up tasks that you may request of us.

Sincerely,

THEODORE C. SORENSEN,
Chairman, Governor's Advisory Panel on State Export Finance.

REPORT TO HON. HUGH L. CAREY FROM THE GOVERNOR'S ADVISORY PANEL ON EXPORT FINANCE

Based upon our review of export studies commissioned by the New York State Department of Commerce, largely conducted by Mr. Delio Gianturco of First Washington Associates under a subcontract from Cresap, McCormick & Paget, our Panel has reached the following conclusions:

Continued growth in New York State industry and agriculture, and at least 189,000 manufacturing jobs, are heavily dependent on the ability of our products to compete successfully in foreign markets. This State exports in greater volume than four-fifths of the nations of the world.

Access to medium-term export financing at fixed and internationally competitive rates, particularly for small and medium-sized exporters, is the most crucial need of those New York companies seeking to increase their sales abroad.

The decline in the public sector's support and supplementation of private sector export finance, as a result of sharp reductions in federal Export-Import Bank programs, has severely handicapped the efforts of New York exporters competing with those receiving subsidized export credits from other countries.

Therefore, in order to supplement the efforts of the private financial community and existing federal and state programs, we recommend:

(1) that the State of New York establish by statute a quasi-public State Export Bank to encourage and facilitate the export to foreign markets of New York products and services;

(2) that the State Export Bank provide, through participating commercial banks, fixed-rate, medium-term loans at discount rates for New York exporters, particularly those of medium size or smaller, who are unable to obtain such financing elsewhere. This Discount Loan Program, similar to that of the federal Export-Import Bank, would be the heart of New York State's new export finance effort;

(3) that, within carefully defined limits, the State Export Bank also be authorized to offer short- and medium-term supplemental export insurance and financial guarantees against commercial and political risk to smaller exporters, as well as export counseling, promotion and policy advice; and

(4) that the initial capitalization of the State Export Bank be fixed at no less than $250 million. Fifty million of this total would be equity contributions, one-half to be appropriated by the State and one-half to be subscribed by banks and other members of the New York financial community. Two hundred million would be borrowed by the Bank, initially from both private institutions and public authorities. The State should meanwhile seek federal legislation to permit the issuance of tax-free International Trade Bonds as a preferred source of capital. Other potential sources of finance from the Bank include the Export-Import Bank of the United States and The Port Authority of New York and New Jersey.

For further details, please see the studies of First Washington Associates. We do not underestimate the practical difficulties inherent in establishing, staffing and implementing such a program, measuring its effectiveness and avoiding untenable credit risks. We conclude, nevertheless:

That such a program, the first of its kind in the country, would be consistent with the increasing role of state governments in trade promotion without contradicting federal government efforts to achieve uniform limits on export subsidies among the exporting nations;

That such a program could be self-sustaining, possibly even providing a modest profit as well as assuring sufficient reserves and continued expansion through reinvestment;

That such a program should enable New York to maintain and expand its volume of foreign exports and the production, employment, profits and state and local tax revenues dependent on those exports; and

Finally, that such a precedent would represent a useful contribution by New York to strengthening the ties of commerce and interdependence among peoples and nations at a time when international discord and disarray pose an increasing threat to us all.

Respectfully submitted.

THEODORE C. SORENSEN,
Chairman of Panel, Paul, Weiss, Rifkind, Wharton & Garrison.

Alan R. Cohen, Acting Superintendent of Banks, New York State Banking Department. Edward W. Duffy, Chairman of the Board and President, Marine Midland Bank. J. Paul Lyet, Chairman Emeritus, Sperry Corp. Peter G. Peterson, Chairman of the Board and Chief Executive Officer, Lehman Brothers Kuhn Loeb Inc. Robert L. Tarnow, Chairman of the Board, Goulds Pumps, Inc. Harry Van Arsdale, Jr., President, New York City Central Labor Council. George B. Cox, Senior Vice President, General Electric Co. Maurice R. Greenberg, President, American International Group, Inc. Donald C. Platten, Chairman of the Board, Chemical Bank. Eugene J. Sullivan, President, Borden, Inc. Thomas C. Theobald, Senior Executive Vice President, Citibank N.A. Cyrus R. Vance, Partner, Simpson Thacher & Bartlett. George G. Dempster, Commissioner, New York State Department of Commerce.

GOVERNOR'S PANEL RECOMMENDS STATE EXPORT BANK TO SPUR TRADE

Governor Hugh L. Carey today received the report of his Advisory Panel on Export Financing, which called for the creation of a New York State export financing bank—the first of its kind in the nation—to increase the sale of New York goods and services throughout the world.

Joining the Governor at his press conference were former Presidential aide Theodore C. Sorensen, chairman of the Governor's panel, State Commerce Commissioner George G. Dempster and the other members of the panel.

Governor Carey said such a program would enhance the state's many other efforts to strengthen the state's economy and create jobs by increasing the state's participation in the international economy.

"It is especially important to pursue this initiative now because federal economic and fiscal policies have made it increasingly difficult for American companies to compete in foreign markets," the Governor said.

"Unprecedented interest rates have made it difficult for American firms to match the financing terms offered by their counterparts overseas, and American exporters' competitive position has been eroded by the reductions in federal Export-Import Bank financing initiated by the Reagan administration."

The advisory committee was named last March by Governor Carey to review a study of the feasibility of a state report bank performed by a Commerce Department consultant.

Mr. Sorensen said the committee endorsed the creation of a state export bank which would provide fixed rate, discount loans to qualifying New York companies unable to obtain financing elsewhere.

The panel report also endorsed a consultant's proposal that the bank should have an initial capitalization of $250 million, with $25 million from a state appropriation, $25 million invested by banks, and the remainder from borrowed funds. A preferred source of capital, the panel said, would be a new tax-exempt federal security—International Trade Bonds—which has been proposed by Commissioner Dempster. Federal legislation is necessary to permit the issuance of this kind of tax-free bond.

Mr. Sorensen said the panel was convinced that without public support New York's export community would be severely handicapped competing with foreign exporters.

"This is an ambitious venture for the State but it is consistent with the expanding role of states in promoting world trade. The bank can be self-sustaining; it can produce a modest profit; and it will enable the State to maintain and expand its volume of foreign exports."

Commissioner Dempster said, "Over the past year we worked to identify the crucial financial problems facing New York exporters. What's most needed by smaller

and medium-sized companies is financing at fixed rates rather than floating rates of interest. And where foreign companies are heavily subsidized by low-cost money from their national governments, we need to provide competitive interest rates.

"We are trying to level the international playing field and allow the free market to operate," Mr. Dempster said. He said a state export bank could provide three major programs:

(1) Fixed-rate, medium-term (one to five years) loans at discount rates to New York exporters who are unable to obtain competitive financing in the private markets;

(2) A supplemental export insurance program that would help smaller companies obtain comprehensive insurance coverage; and

(3) A limited short- and medium-term guarantee program that would help smaller exporters secure financing.

"Our State can't match the subsidies provided by foreign government," Mr. Dempster said. "But, where our help will allow a New York company to exploit its other competitive advantages, we should be ready and able to provide it."

Governor Carey said his staff would begin work with the Commerce Department and the panel on legislation to be submitted to the Legislature this year.

REMARKS OF GOVERNOR HUGH L. CAREY AT PRESS CONFERENCE ON EXPORT BANK, AUG. 18, 1982

In May of this year, I appointed an Advisory Panel on Export Finance to study the feasibility and desirability of a new state program to help New York manufacturers to increase their exports.

The panel was chaired by Theodore C. Sorensen, a senior partner here at Paul, Weiss, Rifkind, Wharton and Garrison, and former counsel to President John F. Kennedy.

Today, I am pleased to announce that the Panel has completed its work—a report recommending that New York State pursue the development of a State Export Bank.

The new bank as proposed would be a joint venture of the State and its major private financial institutions.

It would provide fixed-rate working capital loans, via participating banks, to small and mid-sized New York companies.

These are the firms that too often have been unable to take advantage of export opportunities because of the difficulties they encounter in obtaining financing on reasonable terms from either commercial lenders or Federal export programs.

In some limited circumstances, the Bank might also provide loan guarantees or credit insurance.

It is especially important for the State to pursue this initiative now because Federal economic and fiscal policies have made it increasingly difficult for American companies to compete in foreign markets.

Unprecedented interest rates have made it difficult for American firms to match the financing terms offered by their counterparts overseas.

High American interest rates have also contributed to the weakening of our trading partners' economies, thus reducing the demand for American goods.

The competitive position of American exporters has been further eroded by the reductions in Federal Export-Import Bank Financing initiated by the Reagan administration.

As early as February 1981, I sharply questioned the wisdom of the reductions in Export-Import funding proposed in the President's budget.

While it would represent a victory for sound trade policy if we could persuade all our trading partners to abandon subsidized financing as an instrument of trade policy, it makes little sense for the U.S. government to cut back unilaterally in the face of continuing subsidization of foreign governments.

In the absence of a coherent Federal policy to encourage exports, it is important for the State to do what it can, in direct cooperation with the private sector.

The program recommended by the panel is a logical continuation of the many efforts we have undertaken in the last eight years to strengthen New York's businesses and create jobs by increasing our participation in the international economy.

In earlier years, such efforts were a useful way to help New York's businesses to grow.

Today, they are absolutely essential.

For the economy of the United States, which for so many years was to a great extent autonomous is becoming more and more internationalized.

In 1969 the combined value of all imports and exports equalled 12 percent of our gross national product.

In 1981, exports and imports equalled 24 percent of the GNP.

Some experts have suggested that by the end of the decade, they could approach 40 percent of GNP.

Many of our industries are more vulnerable to foreign competition.

But, many also now enjoy greatly increased opportunities to sell abroad, and to attract foreign capital to New York.

Our economic program has helped New York businesses exploit these opportunities, and to use more effectively the enormous advantages that New York enjoys as a center for international commerce.

We have taken many significant steps in recent years.

We have reformed State regulations to make it easier for New York insurance companies to do business abroad, perhaps most significantly through creation of the New York Insurance Exchange.

The Insurance Exchange gives our domestic insurance companies the opportunity to compete on an equal footing, free of unnecessary regulatory restrictions, in the rapidly expanding international reinsurance market.

The insurance reform legislation I submitted earlier this year, and which I am asking the legislative leaders to take up when they return, would provide New York companies with further opportunities to compete internationally.

We have also created the nation's first international banking zone, here in New York City.

Banks located within the zone are authorized to conduct a variety of strictly international transactions without being subject to a variety of Federal and State regulatory restrictions, or to certain State taxes.

The international banking zone will enhance New York's already impressive status as the center of world finance.

We established the Governor's Council on International Business, to provide a forum for public-private cooperation to build New York's place in the world economy.

Under the leadership first of Ed Pratt and now Gene Sullivan, the Council has worked to promote awareness of export opportunities for New York companies, to "sell" New York abroad, and to attract foreign capital.

We also created an International Business Division in the Commerce Department, and greatly expanded the Department's export promotion activities.

We have begun specially targeted export promotion activities, such as last year's New York Fashion Mart and this year's International Food Show.

We have worked with the Port Authority and with our upstate ports as well, to improve our capacity for shipment of goods to and from the rest of the world by water, air, rail, and road.

And we have intensified our efforts to attract foreign investment to New York.

We have had considerable success.

In recent years New York has ranked first among the states, by a wide margin, in attracting foreign investments.

Of all foreign manufacturing investments in the U.S., 11.4 percent were made in New York.

Steel mills and securities firms, banks and builders—all have benefitted from the infusion of foreign capital.

Foreign companies know that it makes sense to do business here in New York—and that recognition has been translated into tens of thousands of jobs for New Yorkers.

Creation of the country's first State export financing program is a logical extension of these efforts.

It would help small and mid-sized businesses obtain needed financing, and use their existing assets more effectively.

It could help create thousands of jobs.

Now more than ever, we must do what is necessary to secure our own economic future, without relying on Washington.

I am thankful to Ted Sorensen and the other members of the Panel—George Cox of General Electric, Maurice Greenberg, of the American International Group, Donald Platten of Chemical Bank, Gene Sullivan of Borden, Robert Tarnow of Gould Pumps, Thomas Theobald of Citibank, Harry VanArsdale of the Central Labor Council, Peter G. Peterson of Lehman Brothers Kuhn and Loeb, and former Secretary of State Cyrus Vance—as well as Acting Banking Superintendent Alan Cohen and Commerce Commissioner George Dempster and his staff, for their extraordinary work on this proposal.

I have asked members of my staff to review the Panel's detailed recommendations and to work with Ted Sorensen and Commissioner Dempster to prepare legislation to be submitted to the Legislature later this year.

I would now like to have Ted Sorensen and George Dempster join me to explain the details of their proposals.

A New York State Initiative in World Trade

(By George G. Dempster, Commissioner, State of New York, Department of Commerce)

New York State proposes to establish a state export financing bank designed to assist small- and medium-sized exporters and to capitalize this institution through the creation of International Trade Bonds, a new tax exempt security.

NEW YORK DEPENDS ON EXPORTS

During the last two decades, the economy of New York State and the job opportunities it provides New Yorkers have grown increasingly dependent on international trade. Since 1960, the annual value of goods exported by New York manufacturers has grown from $1.2 billion to more than $15 billion, exceeding that of four-fifths of the nations of the world.

During the 1960's, the jobs of less than 100,000 New Yorkers were dependent upon foreign trade. Today, about 450,000 residents depend on export sales to sustain their employment, and one of every eight manufacturing jobs in the State depends on exports. In the past decade, New York ranked first nationally in exports of instruments, second in electric and electronic equipment, and fourth in non-electric machinery.

New York is the international finance and service capital of the world. Since Decembr 1981, more than 150 U.S. and foreign commercial banks have established International Banking facilities in New York, and the State is the headquarters of the Foreign Credit Insurance Association (FCIA) and the Private Export Finance Corporation ("EFCO).

Because of the importance to New York of export-related employment, the advanced state of its transportation infrastructure and the quality of its financial services available to export industries, it is logical for New York to seek greater economic development through expanded international trade. The State's business community can no longer depend upon ever-expanding local and national markets to provide the growth necessary to sustain the standard of living enjoyed by New Yorkers or to provide the economies of scale necessary for expansion. Future growth is more likely to be based on the development of new foreign markets and increased sales abroad.

OUR ABILITY TO COMPETE

Expanding exports, however, can be accomplished only by being competitive in a world market characterized by keen competition from the industrialized nations of Europe and Japan and from several developing economies such as Brazil, South Korea, Singapore and China. The old pattern of American dominance of world trade no longer prevails; the U.S.'s share of world trade has shrunk by 20 percent since 1970, and international economic relationships are growing more complex. For the U.S. and for New York, there is reason to be concerned about our ability to sustain our present position in the international marketplace.

NEW YORK PROMOTES EXPORTS

Within its limited resources, New York State government has developed several programs which seek to promote foreign sales by New York companies. The New York State Commerce Department offers a variety of services to firms lacking the experience or information necessary to enter foreign markets: it provides leads for potential sales to more than 11,000 firms; it organizes participation by New York companies at foreign trade fairs and sponsors visits by foreign trade missions.

Nevertheless, there are other seemingly intractable problems faced by New York exporters which the State has not addressed. In order to determine the need for government assistance beyond that offered by the State, the Department of Commerce sponsored a study to identify and evaluate export financing problems shared by New York companies and to recommend and design programs addressing those problems within the resources of the State. The primary focus of the study was to

identify programs to assist small- and medium-sized firms which appear to be inadequately serviced by existing private and public export financing markets.

PROBLEMS

Not surprisingly, smaller firms were found to have the most difficulty arranging export financing, as they typically have difficulty in arranging financing of any sort. However, the study also showed that medium-sized companies (roughly $5 million to $120 million in sales) with reasonably sound financial credentials also lacked adequate sources of export financing. In particular, the key unsatisfied need of medium-sized exporters appears to be medium-term financing at internationally competitive rates. This problem eclipsed all others.

For small- and medium-sized companies, the other area of major concern revealed by the study was the relatively high cost and complex paperwork associated with securing FCIA commercial risk insurance coverage. The premium rate structure and qualification procedures at FCIA were said to discourage small- and medium-sized firms from applying, which, in turn, reduces their opportunity to obtain funding.

PROGRAMS

Two principles have guided the State's consideration of proposed export development programs: first, a program must be flexible enough to accommodate modifications dictated by a changing economy, experience or changes in federal programs; second, any services offered should supplement and not compete with those already supplied by existing public and private organizations.

The following programs are being considered by the State:

1. *A medium-term discount loan program that would offer fixed-rate financing of export credits.*—As a lender of last resort, this program would offer fixed-rate, medium-term financing (up to five years) for New York export sales. Eligibility requirements for such financing would include a requirement that the transaction to be financed involve the sale of goods with a specified percentage of value added in New York State; a demonstration of the need for public assistance and certain other standard credit-worthiness criteria. The loans would be provided by a State institution through participating banks (see below).

2. *A short- and medium-term insurance supplement program that would help smaller exporters obtain assurance of payment on their receivables.*—This program would operate as an intermediary between the exporters and private insurers, helping smaller firms obtain the most comprehensive coverage at the lowest cost, assisting them with paperwork and facilitating their access to commercial banks.

3. *A short- and medium-term guarantee program that would ensure the recourse-worthiness of marginal exporters and help them secure export financing.*—This program would provide guarantees for small- and medium-sized firms that need assurances of payment beyond their insurance policies in order to secure financing of export receivables from commercial banks.

A NEW STATE INSTITUTION

A State export finance corporation appears to be the best vehicle for offering loan, guarantee and insurance programs deemed most necessary and useful. The corporation, which would be chartered by legislative enactment as a public benefit corporation, would perform a range of functions as a lender of last resort, including borrowing from other institutions, lending to eligible exporters, guaranteeing or insuring against political and commercial risk, and acting in cooperation with other public and private sources of export financing.

Preliminary estimates indicate that the corporation could support more than $1 billion of exports during its first five years of operation. The offered programs could be self-sustaining and generate modest dividends. The most likely sources of funding would be through a one-time State appropriation, private investment and the issuance of tax-exempt obligations.

INTERNATIONAL TRADE BONDS

It is not possible for New York State—or any other state—to compete directly with the liberal trade subsidies provided by several foreign countries; nor does New York State seek to compete on this basis. Instead, we seek to reduce the impact of foreign subsidies on the competitive position of New York companies—thus enhancing other advantages a domestic company might enjoy—and to introduce more New York companies and products to foreign markets.

There are several reasons why this initiative in export financing, including its reliance on the authorization of a new tax exempt security (International Trade Bonds or ITBs), should receive favorable consideration by the U.S. government.

ITB'S ARE NOT IRB'S

The limited use of ITBs will not present the federal government with the problem caused by unrestricted growth in the use of Industrial Revenue Bonds.

The Congress and the Treasury Department have the authority and ability to oversee and regulate the use of IRBs by states competing for industrial development. In the international marketplace, however, neither institution can independently regulate competing nations. Some countries heavily subsidize capital formation, and although the U.S. has sought properly to eliminate subsidization to the greatest extent possible, American companies—including industries which are major New York State employers—have suffered significant losses due to heavily subsidized foreign interest rates. International Trade Bonds would permit a "leveling" of the international playing field. Those states with more at stake (more jobs reliant upon exports) which seek to enhance exports through public-private cooperation and a distinctly limited public subsidy have a strong argument for federal support.

Furthermore, only those states with substantial export markets could justify the creation of a new financial institution designed to enhance exports. Only those states with resources adequate to provide a foreign credit insurance program or a loan guarantee program would be capable of creating such institutions or operating in any substantial degree. This would work to limit the use of International Trade Bonds in the capital formation markets.

Finally, there would be no opportunity for "double-dipping." The Treasury Department has been concerned that companies can use IRBs to raise tax-exempt capital for investments that also qualify for the Accelerated Cost Recovery System, thus earning substantial tax reductions or even a negative tax. An International Trade Bond could be used only to help finance an export transaction and not depreciable property. There would be no opportunity for "double-dipping" by companies using ITB's. The income earned by an exporter would be taxable and unaffected by ACRS.

ITB'S WILL STIMULATE EXPORT TRADE

New York State exporters are increasingly hard-pressed by the combination of high domestic interest rates and aggressive export financing practices by foreign competitors. ITB's would permit State lending agencies and cooperating banks to provide fixed-rate financing at market rates and at modest discount rates where necessary. This was the primary need of small- and medium-sized companies seeking to export that was identified in New York State's 1982 study of export financing problems.

Second, ITB's will benefit manufacturers facing strong international competition: producers of capital goods normally financed over medium terms. In this category are companies producing non-electric machinery; electric and electroncis equipment, instruments, fabricated metal products and transportation machinery.

Third, ITB's will supplement and not compete with financial programs offered by the U.S. Exim Bank. Exim has never operated a substantial medium-term loan program for smaller companies. It is designed primarily to serve the long-term financing needs of large companies. On the other hand, ITB's will permit states to focus assistance on small- and medium-sized companies seeking to develop new markets abroad.

Fourth, the creation and issuance of International Trade Bonds will have a positive impact upon job development and retention in industries facing export competition.

Earlier, we said that a New York export finance corporation could support—through its loan, insurance and guarantee programs—more than $1 billion in export sales through its first five years of operation. Estimates of the employment supported by $1 billion in exports vary from 30,000 to 50,000 jobs annually (U.S. Ex-Im Bank; Wharton Economic Forecasting Associates). If we use the average of these two estimates (40,000 jobs supported per $1 billion of exports), a state export facility financed through ITB's could support 52,320 jobs over the first five years of its existence.

A POSITIVE EFFECT ON U.S. REVENUES AND OUTLAYS

An analysis of the impact of export-related employment on annual federal government revenues and outlays demonstrates the positive impact of ITB-supported export development.

The Congressional Budget Office uses the following assumptions in determining the impact of changes in the unemployment rate upon federal revenues and expenditures:

(a) One percentage point of unemployment equals one million people;

(b) A one percentage increase in the unemployment rate cuts revenues by about $12 billion in one fiscal year and adds about $5 billion to spending in the first year.

Thus, for every million people added to the ranks of the unemployed, the U.S. loses $17 billion in revenues and expenditures in a fiscal year; or, conversely, for every million removed from unemployment, the U.S. saves $17 billion. In other words, for every person removed from unemployment, the U.S. saves $17,000 in income and outlays during the first year.

Without the availability of ITB's, $1 million borrowed for one year to finance an export transaction in the private market at 16 percent will generate $160,000 in taxable interest earnings.

At a combined corporate and individual tax rate of 40 percent, the U.S. would realize $64,000 in tax revenue on these interest earnings.

If the U.S. saves $17,000 for each person removed from unemployment, the creation of only 3.8 jobs per $1 million of export sales will recover all the tax revenues "lost" through the use of ITB's.

Since estimates of jobs supported by export sales range between 30 and 50 per $1 million, it is reasonable to assume that more jobs will be generated by a state export bank than are necessary to fully offset the impact upon federal revenues of an ITB tax exemption.

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